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THE ADDRESS IN MEDICINE.

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The prescribed duty of the chairman of the Medical Section is to acquaint you with the progress made during the past year in materia medica and the practice of medicine. A literal compliance with the mandate would subject you to a wearisome recital of facts and fancies which have been gathered already by enterprising medical journals, and scattered broadcast throughout the world. The spirit of the injunction may be honored by the omission of minor and as yet unestablished additions to our armamentarium; while a few comments are made on the two recent discoveries which have not entirely escaped popular and professional attention: comma bacillus and hydrochlorate of cocaine.

The prompt and unprejudiced experiments made with the new local anæsthetic; the cordial, enthusiastic, and universal acknowledgment of its merits, are a sufficient refutation of the charge that the medical profession is hampered by a blind and dogged conservatism. The drug is still in its infancy. Its anæsthetic properties are so remarkable that its use has been limited mainly to surgery, and especially to operations on the eye. But that it has a valuable future in medicine also, there can be no doubt. Its power to produce contraction of congested blood vessels and pallor of the mucosa early suggested its probable utility in various pathological conditions. Used as a collyrium in conjunctivitis, and in the form of spray in acute and chronic nasal and laryngeal catarrh, it has been of greatest service, not only as an adjuvant, but as the principal remedy. Speakers and singers afflicted with sudden and even persistent hoarseness and aphonia, have found speedy relief and a restoration of vocal functions. It is not improbable that, used with the atomizer, it may mitigate the severity of the paroxysms of pertussis, and alleviate the dreadful distress of tubercular laryngitis. Internally—should its price not continue to forbid its general employment—it may be found serviceable in gastric irritation and catarrh; and, like the leaves from which it is extracted, it may prove to be a quick and powerful muscular invigorator.

The brilliancy of the discovery of the comma bacillus by the already immortalized Koch, is universally admitted; but the claim that this microbe is the pathogenetic factor in cholera is stoutly denied by some eminent observers. This denial is echoed by many worthy people who are constitutional doubters, and who habitually substitute prejudice for patient investigation.

It is asserted on the one hand that the comma is not pathognomonic of Asiatic cholera, being found in the dejections of cholera morbus and even in healthy oral secretions; and on the other hand that in many cases of Asiatic cholera it is entirely absent, and that if it happens to be found its presence is a harmless coincidence. So confident has been this scepticism that its devotees have actually indulged in cholera dejections, swarming with bacilli, as a beverage. Surviving the somewhat repulsive experiment, the inference has been drawn that these microbes have no infectious properties.

Klein and others have demonstrated that the tank water in various parts of India is fairly alive with these punctuating bacilli, and that the natives drink it and them with avidity and impunity. The poor maligned comma microbe seems now in a fair way to have a reputation for innocence fully established. His brother, the bacillus of tubercle, had a similar checkered experience. Miliary tubercle, it was asserted, identical with that caused by the bacillus, could be produced by inhalations of glass dust, or by inoculations with any inert substances.

One zealous doubter hastened to proclaim that the microbe was a base impostor; that what seemed to be a living organism was simply a masquerading fat crystal. But more extended observations, and experiments which excluded former sources of error, have so established the morbific character of this microbe that the affirmation may be made with some assurance: every tubercle comes from a bacillus. In regard to the comma, Klein, in a recent discussion, admits that while this bacillus in and of itself is harmless, it yet does excrete or produce a virus or poison which causes cholera; so that after all the comma is actually essential to the existence of cholera;

and the formula is justified: no comma bacillus, no cholera.

Let it be admitted that the harm is done not by the living microbe, but by some dead excretion. Still, as there can be no secretion without an excretor, the comma cannot be allowed thus to shirk responsibility. The common law maxim, *qui facit per alium facit per se*, will hold the principal liable for all the legitimate actions of its representatives.

It is admitted by Klein and his supporters that the poison produced by the bacilli is self-multiplying. Then it must be alive; for a dead excretion has no power of propagation. And if it be alive it must itself be a microbe, the vicious offspring of the amiable comma. So that at last the contending parties occupy the same platform; one party laying the blame upon the mother microbe, the other party insisting that guilt rests on the wicked daughter.

Too much admiration cannot be felt for the army of patient and zealous investigators who brave danger, who sacrifice ease, who spurn lucrative pursuits in their devoted hunt among uncanny objects for some new minute enemy of the human race. They deserve all the plaudits which they receive. But does not truth compel the sad confession that bacteriology, with all its brilliant discoveries, has furnished little help to what is of the greatest practical importance to physicians and patients: the art of healing? The fatal march of consumption has not been arrested, and its treatment has not been even modified by the discovery of the bacillus. The dreadful disease still continues to kill one-sixth of the human race; and its ravages would not cease even if the bacillus could be exterminated. For consumption exists and runs its deadly course where no tubercles are present. No new remedy has been suggested by the discovery of the cholera microbe. It is known that this bacillus thrives in alkaline soils and has its growth and propagation hindered or arrested by acid conditions. But the acid treatment of cholera was employed with some success more than a decade of years before it was known whether the cause of the disease was shaped like a comma or an interrogation point.

Ague yielded to Jesuits' bark ages before the bacillus malariæ was dreamed of; and the knowledge that vegetable germs are the fountain and origin of the complaint has not added one jot to our ability to manage it. These facts are admitted, but they do not detract from the merit of the germ seekers. No practical—certainly no commensurate—good has come from Arctic explorations. But Franklin and Kane and Greely and all their noble associates deserve honor and reward not for what they achieved, but for what they attempted. Let the spirit of inquiry suffer no discouragement. The ugly duckling becomes at length the beautiful and graceful swan. The helpless and useless babe grows into vigorous manhood in time. Through untold ages the sun has been sending to us line upon line ardently acknowledging our good mother earth as his beloved daughter. The messages were unseen by dull mortal eyes till the Bavarian optician, Fraunhofer, came. He discovered the affectionate hieroglyphics in the solar spectrum, but he could not decipher them. He did what he could. He patiently observed and measured and honestly recorded five hundred and seventy-six apparently meaningless lines. And then he waited for the advent of some Champollion capable of furnishing an interpretation. For forty-five years the epistle remained untranslated. Then Kirchhoff, another German, after much patient search, revealed to us the kinship of things terrestrial and celestial.

Some good, let us hope, will yet come from the cruel and murderous Arctic explorations. In some way mycology may aid in preventing and curing disease. Let us labor and wait. But may we not, with all due humility and deference, suggest to our friends whose eyes are worn out looking through their fiftieth-inch objectives that the shape of the microbes, or even their behavior in cultivation fluids, is no longer of supreme importance? Is it not time that a little more attention be directed toward discoveries in prophylaxis and therapeutics? Already the antiseptic precautions introduced by Lister have been of incalculable benefit to surgery. Those who decry Listerism, and claim that cleanliness is sufficient, actually pay tribute to the genius of the great antiseptic apostle. Dirt is harmful only because it contains noxious germs; cleanliness, to the extent that it excludes these germs, is asepticism; and asepticism is Listerism.

These remarks are introductory to my brief and fragmentary address. The mycologist is inclined to claim that a legion of diseases arise from micro-organisms. Included among them are the exanthems, typhus, typhoid, and yellow fevers, diphtheria and mumps, tuberculosis, venereal indiscretions and cholera asphyxia. Included also are complaints like pneumonia, whose contagiousness is not generally admitted, and rheumatic and malarial fevers, which are non-contagious. It is not pretended that the specific *contagium vivum* of every one of these complaints has been demonstrated by propagation experiments. But as the spirillum of anthrax, the micrococcus of diphtheria, the bacillus of phthisis and cholera have been captured and exhibited and caused to multiply, the inference—conjecture, if you choose—does not seem forced, that all diseases which resemble these specified, in having contagious properties, or a period of incubation, or a definite cycle, or capabilities of preventing subsequent attacks, have as their causes certain minute, even if undiscovered, organisms. Further observations will be made. Alleged discoveries will be subjected to rigorous investigation. The false will be brushed away. The truth will be established. Carping criticism will yield to peaceful acquiescence.

The neurologist is confident that a multitude of complaints have their origin in the nervous system. And he has good grounds for his opinion. "Fever as a Neurosis" is the subject of an able paper by an eminent writer at this very session of our Association. That a high temperature—the highest recorded—has resulted from injuries of the spinal cord—and where the influence of microzymes is excluded—is not a matter of question. In one instance the temperature reached 122° F., and remained for seven weeks between 108° and 118°. The patient was a lady, the result was recovery. An incidental inference, which I will not press, is that if recovery can take place after a continuous average temperature of 115° for nearly two months, it is not the fever which kills or produces rapid softening of the heart and other organs in fatal cases of typhoid. Whether there be special calorific nerves which may be stimulated in moderately severe spinal injuries to increased production of heat; or whether, from continuous compression of the nerves, heat is produced by increased resistance—as in the galvano-cautery—are questions which may merit investigation. Fever, so far as it consists in elevation of temperature, can be a simple neurosis.

That rheumatism involves the nervous system, even if it does not originate in it, may be inferred from the erratic behavior of the joint affections in rheumatic fever, and from the causes of arthritis deformans, which are often grief, care, prolonged anxiety, and injury or disease of nervous centres, as shown by Charcot and ably presented by Ord at the last meeting of the British Medical Association. Many cutaneous affections, notably zoster, urticaria, eczema, are of nervous origin. Pneumonia sometimes arises from injury of the brain. Diabetes, both the glucose and the insipid varieties, can be produced, as is well known, by irritating certain nerve centres. Some kidney diseases and liver complaints are the result of persistent nervous disturbance.

The humoral pathologists still adhere to the belief that our physical ailments arise from disorders of the blood. Plethora has its numerous attending evils, congestions, hæmorrhages, cardiac disturbances. Anæmia is the prolific parent of a thousand aches and pains; of indigestions, palpitations, mental and physical debility. Blood containing an excess of a certain element causes diabetes; contaminated with another it occasions Bright's kidney and diseases of the urinary tract. Rheumatic fever, with endo- and peri-carditis and permanent valvular disease, is produced by the ingestion or injection of a certain acid, and its absorption into the blood, as shown by the experiments of Richardson and Foster. This acid is produced normally from certain elements of the food. It is transformed before reaching the systemic circulation. Produced in excessive quantity, or failing to be transformed, it poisons the blood—as it does when introduced experimentally—and causes rheumatic joint affections and cardiac lesions. As is well known, these endocardial disturbances and valvular injuries are limited almost exclusively to the left heart. The right heart escapes because the acid is normally present there, and so an accustomed stimulant. The transformation is effected in the lungs. In failure of this transformation, the acid passes into the general circulation, and being an unaccustomed stimulant poisons the left heart and works its well known mischief.

Many dermatologists believe that certain cutaneous affections are caused by impure blood; eczema is one. The solidists pin their faith to cellular pathology. We need not be confused by this conflict of opinions. Neither of the views is exclusively true; neither is wholly false. Living foreign organisms, the nervous system, effete impurities of the blood, disorder of the minute cells of which every part of the human frame is constructed, each of these may be a factor in the origination of disease, each may be first or midway, or last in the vicious circle of causes—the etiological Round Robin.

Germs may develop a countless brood and contaminate the blood, either by their own abnormal presence or by a poison which they exude. This poisoned blood stimulates or obstructs the nervous system, and the heat of fever is developed by the correlation of forces. The presence of certain microbes is made known to the nervous centres. A mandate is sent to the vaso dilators of the lung; congestion and pneumonitis result. Some irritation at the origin of the vagus produces hyperæmia of the liver, over production of sugar, impairment of the transforming power, disturbance of the kidney, and diabetes. From disordered digestion an abnormal condition of the blood may result; the nervous system may become involved; gout may be a product, sometimes appearing in its true character as a torturing joint affliction, and sometimes masquerading as eczema or asthma.

The blood, the nerves, the cells, the microbes are thus seen to have a pathogenic partnership harmony and to be interdependent. Without the aid of the nervous system there could be no fever. But the nervous system alone can never originate any specific fever, typhoid or rheumatic, or pneumonia. Rheumatism is intimately associated with a poison in the blood, but the excessive production of the poison and its circulation in unwonted vessels are the result of abnormal nervous influence.

From the ovum to the cadaver man is constantly exposed to this conspiracy of morbific influences and agents to destroy him. There are foes without and foes within; foes which march up in front and boldly smite him in the face; foes which approach insidiously and undermine him; foes which are so attractive that he counts them as friends till he finds himself dangerously smitten under the fifth rib. The destructive influences and agents are in the air he breathes,

the food he eats, the water he drinks, and a hundred fold more in the substitutes for water which he imbibes. These foes are the accidents and sudden dangers which he encounters: the misplaced switch of the railroad; the lurking miasm, the infected air, the defective drainage, the insufficient light, which sap the foundations of life. They are the seductive habits and vices which sparkle and smile, and then bite like the serpent and sting like the adder. These morbific foes find access to the citadel of life through sometimes one avenue and sometimes another. This one comes in through the blood which it poisons, that one along the path of the nerves which it throws into abnormal vibrations, and the other creeps from cell to cell, corrupting and enfeebling every fibre and tissue. Whatever the manner of entrance, the result is the same: nerves and blood and cells all become at length involved in the mischief.

To counteract these ruinous influences and agents—to fight with greater or less success against the open and concealed enemies—many means of defence and attack are provided. There is wisdom gained by observation and experience. There is the obtainable skill of the sanitarian and physician. There are certain inherent powers of resistance and recovery which, ever on the alert, are more potent protectors than that human wisdom which often sleeps; than that human skill which sometimes gropes and sometimes blunders.

We are familiar with what is called the *vis medicatrix naturæ*. It is a power which is sufficient in many—perhaps most—cases of disease to effect a cure. Sometimes it brings relief while the physician simply watches, or gives inert drugs—and claims all the credit. Sometimes it corrects disorders with the well timed aid of the doctor. Sometimes it triumphs over the combined attack of the disease and the blundering medicine man. This reparative power is the best friend and ally of the wise physician. It may be too weak to accomplish its purpose, and so may need timely and sufficient aid. It may overdo the matter, and so need wholesome restraint. It may be irregular in its action, and so need careful guidance.

Now while we are familiar with this reparative power, we may not be so attentive to another conservative force which is especially important: the resisting power. From the *vis medicatrix* this power differs essentially. One is a restorative force—a tendency to come back to the normal condition after departure from it. The other is the conservative force, which *prevents* departure. A steel spring yields readily to external force, but its elasticity—after the disturbing cause is removed—enables it to resume its original condition. This is the *vis medicatrix*. Granite rock is not easily affected by external violence. Its power of resistance is great. When the force brought to bear upon it is strong enough to cause it to yield, it goes to pieces, having no recuperative power. There may be great toughness combined with great resisting power. The iron-clad vessel when struck by ponderous ball or steel bolt, may be perforated, but it is not hopelessly shattered.

This resisting power is akin to what is called inertia in physics—the tendency of a body in motion to keep going; of a body at rest to remain quiet forever. Light bodies with little substance are easily set in motion, and easily deflected from their course, or arrested in it. A feather can be wafted or stopped by the lightest breath. A cannon ball, an avalanche, are turned aside by no obstacle; they move onward to their destination. Every human being has more or less of this resisting power. It may be feeble, and yet so united to a recuperative force that the individual possessor manages to get along fairly well. Any trifling mishap or exposure may prostrate him, as a reed may be shaken in a moderate wind; but his elasticity, like that of the reed, brings him up promptly when the storm ceases. He has his frequent ups and downs;—we all know many such cases;—he is delicate of constitution; he may be like an estimable old lady of my acquaintance, at the point of death at odd spells for thirty years; and yet he lives on by virtue of the *vis medicatrix*, of which he seems to be composed, till all his acquaintances have passed off the stage of action.

On the other hand, this resisting power may be like that of the granite. Its owner may violate all sanitary laws, may laugh to scorn all counsel about what he should eat or drink, or wherewithal he should be clothed. He may expose himself unprotected to cold and wet. He may go without sleep and food. He may tax stomach and brain and muscle to the utmost. And yet he may remain undisturbed. We know such men,—men who guzzle poor whiskey every day, and live to be a hundred years old. We know men of granite constitutions, who prowl around late at night, when they should be snugly in bed; who gormandize, who exercise vigorously all the vices; and yet who remain a standing refutation—as superficial observers think—of all rules for preserving good health. But when some overwhelming calamity comes they are stricken down forever; their first illness is their final one; they crumble to atoms.

In every community there are those whose resisting power is so feeble from inheritance or so thoroughly impaired by excesses that they are but walking dead men—apples of Sodom, perhaps—fair to look upon, but ashes or putrefaction at the core. They yield to influences which are trivial in their nature, and go into the hands of the undertaker before their neighbors had even heard of their illness. There are children of old, or debauched, or scrofulous parents, whose resisting power is so nearly *nil* that their aspirations to stand with the angels receive early gratification, in spite of all that love and skill can do to keep them away from their heavenly home. We name the messenger who summons them cholera infantum, or tuberculous brain disease, or white

swelling; and as parents, while we wonder at the mystery, we bow submissively to Him who gives and then takes again so soon. But as physicians, we are not surprised that diseased and mushroom cells should hasten to early destruction.

No man liveth for himself alone. The good constitution, the strong resisting power of the temperate and upright man is not only a sure personal defence against diseases and a guaranty of longevity; it is transmitted to his offspring down to many generations. The dissolute man, broken down with diseases acquired while sowing his wild oats, suffers not alone. If he did, we might view the transaction with mitigated sorrow. He had his coarse enjoyment and he can afford to reap corruption. But the evil that he does lives after him in the blighted and wretched lives of his innocent offspring.

A priceless inheritance is a strong resisting, combined with a vigorous recuperative power. He who has it and preserves it and fortifies it, living a clean and active life, eschewing bodily and mental excesses, may bid defiance to disease in its multifarious forms. He need not be afraid for the pestilence that walketh in darkness, nor for the destruction that wasteth at noonday. Free from fear—the greatest depressant—he shall walk unscathed through all perils. A thousand may fall at his side and ten thousand at his right hand, but disaster shall not come nigh him. And even when the onslaught of disease cannot be wholly warded off, the wounds inflicted shall have speedy healing.

THE THERAPEUTICAL CONSIDERATIONS OF RESORCIN.[1]

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Our constant experience with diseases of an infectious and pyretic nature, serves to strengthen our belief that these conditions are the offspring of living germs; and as this conviction dawns upon us, we are forced to acknowledge that through these minute organisms the animal and vegetable life are indissolubly connected. It is not the nature of the "microbe" to remain upon his native soil,—whatever that may be—but, using the air as a vehicle for his transportation, finds himself equally at home upon the foliage and fruit, and in the food we eat, as within the human organism. The animal and vegetable kingdoms alike furnish him a suitable nidus for his propagation.

At no period in the history of medicine has the spirit of investigation shown so much persistency and unanimity of effort as is now being carried on over the whole civilized globe. *Science*,—in its every department—is taking an interest in the phenomena of microscopic life, as connected with man's physical well being. With the discovery of the existence and nature of these germs, our list of remedies for pyretic and infectious diseases must necessarily be very much modified; and agents which possess antipyretic, and antiseptic (or anti-fermentative) action, will assume an importance which they have not hitherto possessed in therapeutics.

I desire to call your attention for a few moments to the consideration of a remedy belonging to the antiseptic class; one which, although by no means unknown to the medical profession, has not become invested with the interest which its therapeutical properties would seem to warrant. The article to which I refer is *Resorcin.* It is the chemical product of certain resins acted upon by potash, and is classed among the phenols.

For several years we have given carbolic acid the preëminence as an antiseptic in all external morbid conditions, from simple abrasion to putrefaction, and it has done its work well. But its usefulness must necessarily terminate with the external man; for its nature is such that as an internal remedy, it is not only exceedingly unpleasant to take, but, in quantities sufficient to procure any antiseptic effect, it is very harmful.

We have long been cognizant of the fact that a cause must exist for all the morbid changes in the human organism which we cannot fathom; and in our ministrations to the removal of the vitiated condition we have been compelled to treat the disease as it presents itself in its entirety. We see that certain organs and tissues are implicated and give this unnatural state which they are thrown into, a name accordingly; and the name becomes an entity; it is the magnet which must point to the remedies to be employed.

We are compelled to acknowledge the fallacy of this course every day of our lives. Take, for example, the conditions which go under the general term of "dyspepsia," in their numerous forms. Take also gastric ulcer, gastric catarrh, or cancer of the pylorus. What are these conditions? Our daily experience with these diseases shows them to be hydra-headed! We lop off one feature of the disease only to be confronted by its counterpart. We are thus made painfully conscious that the *cause* has not been reached; that we have been treating but the *effects;* and we are equally aware that circumstances compel us to do so; and that this so-called "circumstance" is but another name for ignorance! Speaking therapeutically, the internal and external physiological man may, in some respects, be considered in very much the same light; differing only in degree of sensibility.

An externally inflamed condition suggests its own treatment. For example: The first thing to be done in wounds and lacerations of the integument is to apply an antiseptic, and protect it from the bacteria of putrefaction, with which we know the air to be peopled, as all putrescent states are due to the presence of these organisms. Now the internal man we treat in this manner just so far as we can see him, and no farther! We recog-

[1] Read in the Section on Practical Medicine, Materia Medica, and Therapeutics, at the thirty-sixth annual meeting of the American Medical Association.

nize the feasibility of this method in all morbid states of the mucous membrane of the fauces and larynx; of the eye and ear, and in the various affections of the anus, urethra, and genitals. These, by the aid of mechanical contrivance, are brought within the scope of our vision.

Now a condition of intestinal ferment, together with the alkaline state of the pancreatic juice, offers as desirable pabulum for the bacteria of putrefaction, which enter into the digestive tract with our food and drink. But, unfortunately, we cannot see the poison which is vitiating the system, through the mucous membrane of the alimentary canal, by the absorption of undigested food which is going through the various stages of decomposition. If the stomach be in the healthy performance of its functions, the bacteria which enter that organ with our food and drink will be destroyed by the gastric juice; hence the great importance attached to maintaining perfect digestion during the prevalence of epidemics. The fact that the action of the intestinal contents remains alkaline from the duodenum to the rectum is, no doubt, the reason why cholera originates in the small intestine, the disease germ remaining inert until after it has passed the pylorus, and finds its greatest field for action in the iliac fossa.

We know the absorptive powers of the mucous membrane which lines the alimentary canal, and if the food which it contains be sufficiently emulsified or broken down to permeate this surface, it is in this way carried into the general circulation and consequences more or less deleterious must follow, dependent upon the state of fermentative putrescence the substance has reached. Although this is a truth familiar with us all, it does not receive the consideration which its importance demands; and this is because we cannot see it demonstrated before our eyes! We see the results in various diseased conditions, but attribute them to some other cause, more or less remote, save in acute blood poisoning. Infectious diseases illustrate the *modus operandi* of intestinal absorption, and we are cognizant of it. We are also governed by this knowledge in our external manipulations. We take into consideration the absorptive powers of the skin, although they are a hundred times less active than the epithelial covering of the intestinal tract. The integument is made hard and firm and largely impervious by nature and our surroundings; still it may be made to absorb certain oils, charged with poisonous matter, sufficient to bring the system under its influence.

The complete process of digestion has not yet been so perfectly unfolded to our understanding that we may not expect new revelations. The bile performs a very important function in regard to the deleterious effects of intestinal ferments. When nitrogenous food, like meat, etc., has lain in the stomach, unaffected by the gastric juice, it must, after passing the pylorus, be taken into the blood, and acute septicæmia would be a very common occurrence were it not for the positive antiseptic action of the bile, with which it is now mixed. Indeed, were it not for the liver, the system would be liable to be poisoned at any time from the absorption of the products of natural digestion! The existence of putrid meat, etc. would not be absolutely necessary.

The alkaloids which are formed during the progress of natural digestion would become absorbed, and passing on to some organ, or to the nervous system, bring about very serious results. The antagonistic properties of the bile have never yet been thoroughly understood.

I do not purpose to consume time in a lengthy analysis of the physiological anatomy of the liver, but wish merely to remind you of what you are already well aware, and that is: the principal part of the venous blood which returns from the stomach and intestines must pass through the liver before it reaches the general circulation. Now circumstances show that the products of putrefaction are detained in the liver and by the action of that organ are in a great measure chemically changed into harmless substances. This has been repeatedly confirmed by the familiar illustration of the difference in the intensity and rapidity of action of poisonous drugs when taken into the alimentary canal by mouth, and when they are injected *per rectum*. In swallowing the substance it passes into the portal circulation, and upon entering the liver, much of its force is lost. When thrown up the rectum, the substance passes directly into the general circulation through the lower hæmorrhoidal veins, without passing through the liver; hence it meets with no chemical antagonist by which its poisonous properties may be wholly or partially destroyed.

The consequences resulting from the absorption of the intestinal ferments are a variety of diseases, and profound depression of the nervous system. We are quite familiar with the functional derangements of the heart in gastric indigestion, through the reflex action of the nerve fibres which run from the stomach to the medulla oblongata; but direct organic alteration of the heart is produced when the poisons of intestinal ferments are carried to this organ.

If the poison enter the cerebro-spinal nervous system it is capable of producing any of the conditions or diseases peculiar to this system. The same is true of the kidneys. Skin diseases, sores, and ulcers are the result of chronic septicæmia. There can be no question but that this is the cause of a large majority of organic and strumous cachexia. With this knowledge then, the course to be pursued is plain: first, eliminate all putrescent substances from the alimentary canal by means of brisk cathartics; and then, proper antiseptic medication should follow.

Of the many remedies which possess this property, few have any farther action than upon the matter with which they come in contact in the intestines. They act, also, as an irritant upon

the mucous membrane, or have a toxic effect upon the nervous system; as, for example, carbolic acid. This cannot be used as an anti-fermentative, nor as an antipyretic, for the reason that the individual cannot tolerate a quantity sufficient to produce the desired effect. Charcoal is powerless unless taken in large quantities. Salicylic acid is almost insoluble, and iodoform is impracticable in many ways.

We have in resorcin a remedy possessing all the qualifications necessary, and with no objectionable features.

In the first place, but a very small quantity is required to be given. A one per cent. solution will prevent urine from changing for several days, and will arrest mould and decay.

The pure white resublimated resorcin is the only kind that should be used. It comes in the form of shining needles; has a sweetish taste, not altogether unlike benzoate of sodium, with a slightly bitter aftertaste. It has no unpleasant accompanying symptoms, when introduced into the circulation in moderate doses. My experience emboldens me to say, that of all anti-ferments or antipyretics this is preëminently the best. Children and sensitive women will take this remedy unhesitatingly when they would refuse carbolic acid, salicylic acid, or quinine in solution.

I have used it extensively in various forms of gastric disturbances, as in eructations of gas due to food lying in the stomach, and not acted upon by the gastric juice. Also in pain and vomiting from the same cause, and in gastric dilatation. In ulcer of the stomach it is a most efficient remedy, and agreeable to the patient. The stomach may be washed out with a five per cent. solution, or, if the patient emphatically objects to this unpleasant operation,—or other conditions do not favor the introduction of the tube—quite as good results may be accomplished by first cleansing the stomach and bowels with a saline cathartic, and then administering five grains of resorcin in an ounce of water every hour, until six doses have been taken.

In catarrh of the stomach, and in the chronic gastric catarrh of drunkards, this is excellent; it breaks up the thick tenacious mass which coats the mucous membranes. In chronic intestinal catarrh this cures by preventing the fermentation of food, if taken in doses of five grains to the ounce of water before meals. Also in flatulence of the bowels from the same cause.

It will prove a most satisfactory remedy in the abdominal pains and feverish condition of children resulting from improper food; and also in acute and chronic diarrhœa of children. Its lack of irritant qualities, no less than its anti-fermentative properties, gives it a specific value. It is equally serviceable in the diarrhœa of adult life. For the same reason it will act favorably in hypochondriasis, and in the depression of spirits dependent upon liver derangements; and in the numerous forms of "stomach headache," including "sick headache," when of stomachic origin. It is also valuable in gout, chronic rheumatism, and lumbago, which, there can be no doubt, are of fermentative origin.

In all pyrexiæ, resorcin may be employed with benefit, but particularly in intermittent and relapsing fever. It will quickly reduce the temperature, render the pulse slower and firmer, lessen the frequency of the respiration, and promote perspiration. Under its effect the brain becomes clearer, the intense headache is lessened, and the tongue becomes soft and moist. It kills the fibrilla of fever, whether of the intermittent or miliary type. In typhoid fever this remedy is used more for the purpose of producing an aseptic condition of the intestinal canal; but in moderate doses it will keep the temperature within safe limits. It is preferable to salicylic acid because it is less irritating, and has no depressing effect upon the heart. It may be given both subcutaneously and by the stomach.

In pelvic cellulitis, when the temperature is high, resorcin will be found beneficial, and will tend to promote a condition of quietude and sleep.

It is valuable in all stages of pyæmia and septicæmia.

The antiseptic action of resorcin upon the mucous membranes in chronic nasal catarrh, and in chronic bronchitis, is very happy. It will relieve the cough of a common cold, produced by irritation and inflammation of the air passages, from a collection of mucus.

In whooping cough it will at once arrest the paroxysms of coughing, if a fifty per cent. solution is sprayed upon the larynx; and if this application is kept up every two hours, it will remove it altogether. Whooping cough is undoubtedly of germ origin.

The action of resorcin as a local application to the mucous membranes is by no means enhanced by using it strong enough to produce vesication. I have found a fifty per cent. solution to do much better in ulcerated sore throat than the crystals; and sometimes, where there is great tenderness of the parts, the substitution of glycerine in the place of water is still better.

Resorcin is a very good remedy in acute tonsillitis, in eczema of the throat, and in catarrhal irritation of the fauces. I know of nothing better to remove the mucus which coats the membrane of the throat in catarrhal conditions than a one per cent. solution used as gargle. And in diphtheria, as a local application to the diphtheritic membrane, and surrounding parts, it is valuable; the strength to be from fifty to seventy-five per cent. in glycerine. This is the most eligible application, and should be repeated every hour; at the same time let the patient take gr. xxx–lx during the twenty-four hours.

In varicose ulcers this may be used with the glycerine plasma—one to eight. Carbuncles and boils may also be treated in this manner.

I have had good success in treating bubo with

this remedy, by injecting a five per cent. solution into the abscess, and applying the plasma externally. Chancroids heal more readily under the action of resorcin than any other remedy that I have ever used.

In ulcers of the cervix uteri, and in chronic endometritis, and in uterine catarrh, a fifty per cent. solution should be applied to the mucous lining of the uterine cavity on the cotton-wrapped probe. It is quite as useful in acute vaginitis, and in gonorrhœa, and inflammation of the urethra in both sexes. Pressed up into the vagina, in the plasma form, it will quickly arrest severe vaginal leucorrhœa or gonorrhœal discharge.

In obstetrical cases the puerperal symptoms can be arrested by the internal and local use of resorcin. Introduced into the vagina after parturition, its antiseptic action upon the lochial discharge renders it harmless if absorbed into the system.

In hæmorrhoids and fistula, and in abscess of the rectum, it is very useful. The abscess and internal hæmorrhoids may be treated with resorcin in the suppository form, a manner thoroughly appreciated by all who have had much experience with daily local applications.

In some forms of skin disease, I have found it quite beneficial, especially in those which have much redness and burning as their characteristic symptoms, as acne rosacea and some forms of eczema. It may be used as a lotion, made up of five parts of resorcin to two parts each of glycerine and water. I have succeeded with this preparation after arsenic, sulphur, and all the other well known remedies had failed.

Resorcin may sometimes be used upon the skin more advantageously in an ointment made up with vaseline, or simple cerate, thirty grains to the ounce. In making this ointment it is very important that a little water be added to the resorcin so that it may be broken down into a plastic mass, forming a soft, unctuous compound. This will be found a nice thing for burns, cuts, and bruises, where suppuration is threatened or has already appeared.

It is also useful in inflammation of the eye and ear.

I have tried resorcin in all conditions requiring a remedy of its nature, and have not yet been disappointed in its action. Care should be taken to secure the pure article, and judgment exercised as to the proper strength it should be used—all conditions not requiring the same—and also the manner in which it should be administered or applied.

As regards its *internal* action, I know of no remedy, possessing its active properties, so devoid of all irritating qualities. Even in large doses it may produce toxic, but still not dangerous effects.

Externally it may not be considered by some as in any way superior to carbolic acid, but on comparing the two we will find its superiority lies in the fact that it will not cauterize to the extent of carbolic acid, nor produce any of the dangerous systemic effects which local applications of carbolic acid are always liable to produce, in more or less degree, when persistently or extensively used. It is also devoid of the offensive smell which characterizes both carbolic acid and iodoform, which fill the atmosphere with an odor which renders the unfortunate bearer an object of suspicion to be scented afar off.

Taking all these things into consideration, I believe that we have in resorcin an antiseptic superior to any yet known.

MEDICAL PROGRESS.

ANATOMY AND PHYSIOLOGY.

DISSOCIATION OF THE AURICULAR AND VENTRICULAR MOVEMENTS OF THE HEART.—PROFESSOR A. CHAUVEAU reports in the *Revue de Médecine* a case so unique and striking that we at once present a brief account of it to our readers. It was that of a man, a patient in the service of Professor Boudet, who had a radial pulse of only twenty-one to twenty-four beats per minute. Upon auscultation, and by means of sphygmographic tracings, it was found that, while the ventricles beat only twenty-one to twenty-four times per minute, the auricles pulsated sixty-six times. These auricular pulsations were tolerably regular, but were perfectly independent of the ventricular rhythm, being sometimes pre-systolic, sometimes post-systolic.

Professor Chauveau adds the results of his investigations as to the pathogeny of this condition. By cutting one of the pneumogastric nerves in a horse, he obtained some dissociation in auricular and ventricular movements. But by slightly stimulating by a galvanic current the left vagus, he obtained a sphygmographic tracing of dissociated rhythm which almost completely resembled that obtained from his patient. The inference is that a slight irritation of the vagus is a cause of the dissociated movements. The case throws light, therefore, upon the pathology of dissociated rhythm of other types than the unique one here described.—*The Medical Record*, April 4, 1885.

INNERVATION OF THE LARYNX.—PROF. SIGMUND EXNER, in his work, *Die Innervation des Kehlkopfes* (Vienna, 1884), announces the discovery of a third laryngeal nerve (nervus laryngeus medius). This nerve is derived from the pharyngeal and laryngeal plexus formed by the pharyngeal branch of the vagus with other nerves, and enters the crico-thyroid muscle, which is also supplied by the external branch of the superior laryngeal nerve. The interarytænoid muscle is supplied by both upper and both lower pharyngeal nerves, and generally each muscle is enervated by several nerves. The above conclusions are deduced from three lines of research: 1, irritation of nerves in living animals; 2, degeneration of nerves after section in living animals;

3, examination of the larynx in children (*post-mortem*). — *British Medical Journal*, March 14, 1885.

Twenty-three Tæniæ Expelled from a Patient in One Day.—A. Laveran, in referring to the mistake of relying upon the term tænia solium as meaning a solitary parasite, gives the case of an army officer who had been on duty at a post where the water was provided from two cisterns, one of which was near some privies and also a waste pipe for dirty water. Two of his comrades had passed tæniæ. As he gave all the symptoms of the presence of tæniæ, he was treated with the ethereal oil of the male fern, which resulted in the passage of twenty-three tæniæ. Twenty-two of these tæniæ were perfect with their heads, the twenty-third either came away without the head or it was lost in the discharges. Each tænia was 2 m. 30 in length; they were the tæniæ inermis, and no hooklets were found.—*Archives de Médecine et de Pharmacie Militaires*, March 1, 1885.

MATERIA MEDICA AND THERAPEUTICS.

Balsam of Peru Combined with Various Metallic Oxides as an Adhesive Dressing for Many Lesions of the Skin.—Dr. George Henry Fox made some remarks on this subject at the meeting of the New York Dermatological Society on March 24.

He said that he had lately been experimenting with certain applications for the purpose of obtaining a new form of adhesive dressing. The one that he had used chiefly was a preparation containing one part of precipitated oxide of zinc to three of balsam of Peru, which he had found the least stimulating of all the balsams. It formed a very soft ointment, was readily applied to the skin, and easily hardened, thus completely protecting the parts. Ether and chloroform were added to some of the preparations, but they were too stimulating, as was balsam of fir, although Dr. Jackson informed him that in one case under his observation the latter balsam was milder. He (Dr. Fox) has applied this preparation over moist and exuding surfaces, even in children, without producing any more pain than an ordinary ointment. The objection to the use of an ointment was that it became dry, and was then friable. He had tried adding oil to the preparation, but found that it was too liquid. When the parts become dry and there is a tendency to fissuring, the surface could be made smoother and the cracks filled up by applications of oil. He had obtained the most gratifying results from the use of these preparations. The various metallic oxides, such as zinc, bismuth, magnesia, etc., could be employed in combination with the balsam of Peru. He had prescribed the balsam and oxide of zinc separately, and had them mixed afterward. The effect of these preparations was to relieve the congestion of the skin, and it was accomplished more quickly than by the application of the ordinary oxide of zinc ointment.—*Journal of Cutan. and Vener. Diseases*, May, 1885.

Baths of Permanganate of Potassium.—Dr. Hüllmann, of Halle, first used this remedy in 1879, for a two-year-old child that was suffering with a scrofulous eruption—eczema and impetigo. After other means had been tried without benefit, he ordered a full bath of permanganate of potassium solution, so strong that the color of the water was between a dark rose and a violet. The child was kept in the bath until the water began to take on a brownish tint. After two weeks of this treatment the eruption entirely disappeared, leaving a slight yellow color to the skin, which disappeared in a few days. Since then Dr. Hüllmann has used it with success in the so-called scrofulous exanthemata, in prurigo and eczema, in intertrigo, and during the desquamative period of measles, scarlet fever, and varicella—with the latter, as a preventive against infection. He found it of most benefit when used after free washing and the use of the brush to remove all scales, scabs, and other accumulations. The proportion of the solution required is about grs. xv to ℥x. It is put into hot water, which is then allowed to cool in the bath tub.—*Archiv. für Kinderheilkunde*, B. VI., Hft. 3.

MEDICINE.

The Semiological Value of Nephrozymase in Renal Affections.—Dr. E. Baltus has demonstrated experimentally, with M. A. Béchamp, that nephrozymase is formed in the kidney itself and that its proportion in the urine decreases after reaching the bladder. This name is given to a substance which was first isolated in 1865 by M. A. Béchamp, as an albuminoid substance which possessed the general properties of soluble ferments, capable of liquefying and saccharifying the starch of vegetable matters. Its presence must relatively be considered as of importance as it exists in the proportion of 0 gr. 60 in the healthy man and 0 gr. 33 in the woman; that is, in the extractive principles of the urine. To separate this nephrozymase, the urine is carefully filtered with three volumes of alcohol, the precipitate settles gradually for several hours—sometimes 24 hours are necessary. The supernatant liquor is decanted in great part, and the precipitate is collected on a filter. It is then washed with alcohol at 75° C. until it will no longer dissolve. The resulting precipitate, when mixed with a little water, will liquefy and saccharify vegetable starch in a few hours. To separate all the mineral matter, it is necessary to repeat the manipulations several times and to increase the alcoholic precipitate by a very small quantity of acetate of soda.

From a physiological point of view, it is interesting to find the kidney, which has been generally considered to be only a simple filter, furnishing a veritable product of secretion, that is to

say, a really new substance, not preëxisting in the blood, and of which its constancy is an undeniable proof of glandular activity. This constitutes a fact in nature which diminishes the radical difference, supposed to have been established, between the organs of secretion and of excretion properly so called.

From a clinical point of view, the observations so far made allow us to attribute to nephrozymase considerable semiological importance, particularly with reference to the anatomical condition of the kidneys in their primitive and secondary affections. This question deserves special attention from practitioners. Examination of those pathological conditions where the excessive augmentation or suppression of this substance has taken place is very convincing.

The author gives three cases of diabetes mellitus, one case of renal congestion connected with the retrocession of a cutaneous affection, and one case of œdema of the lower extremities with arterial insufficiency; in all of which the nephrozymase was increased, caused by what he calls zymasuria. These cases were all characterized not only by the presence of a quantity of nephrozymase much greater than normal, but also by a total absence of all albuminoid matter recognizable by the ordinary reagents, such as heat, nitric acid, and the various salts. It would seem to result from these observations that this particular condition of the urine is associated with renal hyperæmia as much as well defined symptoms of profound lesions of the glandular organ. It is precisely to the concomitant absence of these lesions that is due the frequent transitory character of zymasuria, and the relatively benign prognosis, as far as the renal condition is concerned. None of the diabetic cases which furnished the precipitate suffered from any parenchymatous or other nephritis. The same can be said of the remaining two cases. When the lesion advances beyond the stage of hyperæmia, taking on an inflammatory type, disorganizing the glandular epithelium, and thereby annihilating the organ of secretion, the scene changes and the urine shows a notable diminution or total absence of nephrozymase.

As examples of the absence of nephrozymase, the author gives a case of confirmed Bright's disease; one of albuminuria *a frigore*, with probable parenchymatous nephritis; a case of lead poisoning; and a case of paludism, in which there was a diagnosis of concomitant nephritis.

Dr. Baltus considers that these facts are sufficient to justify him in concluding:

1. That zymasuria is generally the result of a congested condition of the kidneys, primary or secondary, but without any notable alteration of the glandular epithelium.

2. That the total disappearance of nephrozymase indicates a profound disorganization of the secreting epithelium, and belongs consequently to the advanced stages of Bright's disease.—*Jour. de Sciences Médicales de Lille*, March 20, 1885.

PSORIASIS TREATED WITH SALICYLIC ACID AND CASTOR OIL.—At the meeting of the New York Dermatological Society, on March 24, DR. GEORGE HENRY FOX showed two cases in connection with this subject. The first patient, a girl 8 years old, who has a psoriasis covering all the body. The patient's father and sister also have psoriasis. When she was admitted to the hospital, a two per cent. solution of salicylic acid in castor oil was applied to the right arm, a weak solution being used because of the great congestion of the skin. The scaling is less, and many of the patches have disappeared, although the disease is extending in other directions. To the left arm the mixture of oxide of zinc and balsam of Peru has been applied, and there is even less congestion in this situation.

In the second case, the lower extremities are chiefly affected. This patient is peculiarly susceptible to action of ammoniated mercurial ointment, even a very small quantity exciting the severe dermatitis. Chrysarobin pigment has been applied to the right leg, and a five per cent. solution of salicylic acid to the left leg, producing a marked improvement in the condition of the eruption in the latter situation.

Dr. Morrow said that he had for a long time used a two to four per cent. solution of salicylic acid in cosmoline in pityriasis, in scaly eczema, and for removing the scales of psoriasis, preliminary to a more active treatment. He was glad to know that castor oil proved so admirable a solvent. In many cases he believed that psoriasis would improve under an indifferent treatment. In some cases he had treated one side of the body with linseed oil, and the other with pyrogallic or chrysophanic acids, without any marked difference in the relative rate of improvement of either side. Of late, he had found that chrysarobin did not produce the irritative effects that he had formerly observed from its use.

Dr. Piffard found that ten per cent. of salicylic acid would not dissolve in oil, unless oil of lavender were used. He used oil of lavender and oil of eucalyptus, each half an ounce, and castor oil an ounce, as a solvent. Salicylic acid dissolved in liquor gutta percha possessed an advantage over a collodion solution, because in the former the salicylic acid rises to the top and can easily be shaken up, while in the latter it sinks to the bottom.

Dr. Fox said that there was an advantage in using the preparation made with the oil, because it was not irritating. He was pleased to hear the suggestions made by Drs. Morrow and Piffard, and remarked that ordinary oils do not dissolve salicylic acid so readily as castor oil.—*Journal Cutan. and Vener. Diseases*, May, 1885.

THE THERMOMETRY OF THE EAR.—DR. BOYDAN FLITNER (*St. Petersburg Inaugural Dissertation*, 1882; *London Medical Record*, August 15, 1884), has made 100 measurements of the temperature in the meatus in healthy subjects, and 114 in the

patients suffering from various acute and chronic affections of the ear. The measurements were taken by means of a special thermometer invented by Dr. R. R. Wreden, a description of which is to be found in the *St. Petersburg medic. Zeitschr.*, November, 1879. It is made by Mr. Reinhardt, of St. Petersburg.

The author found that the average temperature in the meatus in healthy persons was 36.8° C., the averages for the axillæ and rectum being at the same time equal to 37.5° C. and 37.8° C. The results of the measurements in the cases of ear disease (otitis media purulenta, otitis media catarrhalis, myringitis, otitis externa, and otitis interna), are given as follows: 1. The difference between local and general temperature, which under normal conditions, is equal to 1.0° C., oscillates in all acute ear affections between 0.3° C. and 0.5° C. That is, in cases of inflammation of the ear this difference is diminished more than half a degree (C.) comparatively with the standard. 2. In cases of inflammatory processes in the middle and external ear, the temperature of the diseased ear rises above the normal in acute forms from 1.0° to 1.2° C., and in chronic 0.3° to 0.5° C. 3. In inflammations of the internal ear the temperature of the diseased organ rises in acute cases 2.0° C., and in chronic 0.7° C. 4. In acute inflammations of the middle and external ear, the rectal temperature rises 0.4° to 0.7° C.; in those of the internal ear, 1.6° C. 5. In chronic ear inflammations, the rectal temperature remains at the standard, or even falls below it. 6. In acute ear diseases, the temperature of the healthy ear rises from 0.6° to 1.1° C., above the standard; and in chronic, from 0.2° to 0.4°C. 7. In affections of the internal ear the difference between the temperature of the diseased organ and that of the intact is less (being only 0.2° C.) than in affections of the external and middle ear (where it is equal to 0.3° to 0.4° C.). The general conclusions as summarized by Dr. Flitner are these:

1. Daily measurements of the temperature in the course of inflammations of the ear show that the temperature of the latter stands in a constant regular connection with the general temperature of the body. Therefore, in ear affections, the local measurements not only may be substituted for, but even must be preferred to, measurements of the temperature in the rectum and axillæ.

2. The same may be asserted in regard to ear affections complicated with pneumonia, erysipelas, and other diseases.

3. In cases of ear affections complicated with morbid processes in the cranial cavity, or even on the surface of the skull (caries, phlebitis of the sinuses, erysipelas), the temperature in the meatus sometimes stands higher than in the rectum. Hence, the measurements in the ear canal give us a clearer indication as to the course of morbid process in the head than the rectal measurements, and are preferable to the latter beyond any comparison.—*Glasgow Medical Journal*, March, 1885.

SURGERY.

HERNIA OF THE STOMACH INTO THE SCROTUM.—DR. S. VOGT gives the case of a man 60 years of age, with a scrotal hernia of the size of an adult head, who died in collapse with symptoms of local peritonitis, but without symptoms of strangulation. The autopsy showed, among other things, as a part of the contents of the hernia, the pyloric end of the stomach enormously dilated, the epiplon, the cœcum with the vermiform appendage, the ascending colon, the transverse colon, and the commencement of the descending colon. The stomach had an hourglass dilation corresponding to the hernial ring; the lesser curvature a little distorted above, was slightly elongated, while the greater curvature and the body of the organ were outside the ring. The extraordinary dilation of the stomach had completely changed the relations of the organs in the abdominal cavity, so that the small intestines were carried to the left, and below, into the pelvis, and the liver had been drawn from the right side toward the median line.—*La Presse Médicale Belg.* March 1, 1885.

THE TREATMENT OF FRACTURES BY LAMINATED ZINC APPARATUS.—DR. MAURICE POLLOSSON has been using, for some time past, in the treatment of fractures of the leg and thigh, an apparatus made of laminated zinc, having seen it applied in the Parisian hospitals by M. Raoult-Deslongchamps, the inventor. In constructing the apparatus for fractures of the leg, he cuts out of a sheet of zinc, by a paper pattern, a metallic plate intended to be curved in of a gutter shape, and adapted to the posterior surface of the fractured limb. The foot is supported by a sole, which is made by the curving in of the two sides of the plate; these two sides are fixed by iron wire passed through three holes pierced in the zinc and corresponding to the superimposed portions. The heel is received in an opening. A second plate of zinc, rectangular in form, and about 30 cm. long by 25 cm. broad, is then cut so as to be applied to the anterior surface of the limb. Besides the large and small plates of zinc, there should be three solid lacets of braided tape, and provided at one end with a strap buckle; two bands of webbing, and wadding for lining the interior of the plates. The laminated zinc can be obtained of any worker in such material, and the whole apparatus costs but very little.

Its application is made by lining the posterior splint with two layers of wadding where it covers the tendo Achillis, one layer in the part corresponding to the popliteal space, and one layer covering the whole of the interior of the splint. The splint is slipped under the fractured limb, reduction is then made with the sole of the foot placed against the sole of the apparatus, the

limb being fixed provisionally in position with the aid of two lacets which compress the leg portion of the splint. The two bandages of webbing are then applied; one fixes the foot by a figure-of-eight crossed over the instep, the other is applied circularly about the knee and inferior portion of the thigh. To prevent the latter bandage from slipping up, the upper extremity of the zinc plate has digitations cut into it which are curved in to catch the bandage. This being done, the provisional lacets are removed and the second plate is placed on the anterior surface of the limb, which, when curved in, embraces the first plate in its concavity. The three lacets are then bound around it, one in the middle, the others at either end. The ultimate treatment consists in tightening the lacets frequently, which should always be drawn to their maximum, and in reapplying the bandages if they become relaxed.

From the time of its application the patient can rest the limb on a chair or sofa, without being obliged to assume a fixed position. The anterior splint can be removed, if necessary, from time to time to examine the parts. If there be much displacement, little cushions of wadding can be placed upon the posterior splint, so as to press upon the prominence of fragments in a gentle and constant manner, which is quite supportable and very efficacious. In complicated fractures the antiseptic dressings are placed under the anterior splint, and the posterior splint can be hollowed or sloped out at the level of the wound when it is necessary. Dr. François Léon Pellerin has published a thesis on this subject ("Thèse de Lyon," 1885).—*Lyon Médical*, March 15, 1885.

LOCAL EXTENSION IN THE TREATMENT OF FRACTURES.—In an article on this subject, in the *Medical Record*, of April 18, DR. CHARLES F. STILLMAN says: In local extension, only the parts about the seat of fracture are stretched, while in extension, as usually practised by means of a weight and pulley, or the long extension splint, the stretching is not limited to the affected part of the limb alone, but involves the entire limb.

It would seem, theoretically, if thorough extension of the part could be produced by means of traction force, directed so as to produce stretching of the injured part alone, that the fracture would be placed in the best condition for prompt repair with a minimum of deformity; and in reality, this is true, because, when properly adjusted, such a dressing not only insures better fixation of the fractured bones during the period of repair, but at the same time the traction can be regulated day by day, without the necessity of removal of the splints from the limb; and, in compound or comminuted fractures, the parts can be dressed and local treatment pursued without disturbance of the fragments or removal of the splint.

As an illustration of this method for the production of local extension, we will suppose an instance in which the fracture has taken place in the forearm, midway between the wrist and elbow. The requisites are: First, two stout wooden splints, notched at each end; second, some strong moleskin plaster (the double-twilled, prepared for extension of joints, is best); and third, some strong webbing strips. First cut *four* strips of the moleskin plaster of sufficient length to encircle the arm, and from two to three inches in width. These should be cut in the fan shape, and have strips of the webbing sewed to them. To the end of *two* of these strips buckles should be attached. To apply the splint the four adhesive strips should be placed upon the forearm, two above and two below the seat of fracture, and on opposite sides of the arm, the extremities interlacing, care being taken to avoid covering the seat of fracture. The wooden splints are now to be placed one on either side of the arm, and held there in position by circular strips of adhesive plaster in the usual manner.

The next step consists in drawing the webbing strips through the notches at the end of the splints, on each side of the arm, and buckling them together. It will readily be seen that the tighter these linear straps are drawn together and secured by the buckles, the more stretch will be produced upon the parts over the seat of the fracture.

If the fracture is near a joint the splints must be carried beyond that joint sufficiently to immobilize it, but if in the middle of a shaft, fixation of the joint is not a necessity if the local stretching is thoroughly effected. It may be also suggested whether rubber webbing could not advantageously be substituted for the non-distensible form advocated by the writer. It would seem, however, that its continuous action would be more apt to produce non-union of the fragments, and at the same time it would certainly cause the adhesive plasters to cut more deeply into the tissues, than if the extension was produced by the rigid webbing.

For fracture of the thigh, *four* short splints are used about the length of the thigh itself, and notched in the same manner as those used for the forearm. These will require *eight* fan-shaped moleskin strips, to each of which a webbing strip should be attached, as already depicted. These should be interlaced above and below the fracture, and the webbing strips drawn tightly over the ends of the wooden splints, which are to be placed on the four sides of the thigh. Traction can now be secured as in the forearm, and is maintained and regulated at the will of the surgeon. In most cases it will be found preferable to extend the posterior splint above the hip and below the knee, and secure immobilization of these joints for the first few weeks, but the lateral and anterior splints are not changed.

This method of treatment allows the surgeon to secure a more perfect coaptation of the fragments, and to maintain and adjust the extension; since the latter depends entirely upon the degree

of traction which is exerted. The adhesive dressings, when interlaced in the manner just detailed, not only do not slip, but any increase in the traction causes them to embrace the limb more firmly, and, when the strips of webbing are drawn over the ends of the wooden splints and buckled together, such traction as is exerted is held securely, provided the splint itself be of sufficient thickness not to be bent under the linear strain.

It is a difficult matter to disarrange the fragments if they have been properly adjusted and secured by the method just described, as the traction causes the parts over the seat of fracture to become stretched, consequently causing perfect fixation of the part by forcing the tissues themselves to act as a local and secondary splint, in addition to the remainder of the apparatus.

BENZOATE OF AMMONIA is relied upon by some in enlargements and irritations of the prostate gland, and in hypertrophy of the bladder with alkaline urine. It distinctly renders the urine acid when phosphatic deposits are present. It combines also with the glycocin or sugar of gelatine in the bile, and has some obscure curative relation to some bilious troubles. In jaundice there is a deficiency of glycocin. The dose is fifteen to twenty grains.—*Medical Record*, April 4, 1885.

OBSTETRICS AND GYNÆCOLOGY.

AUTO-CÆSAREAN SECTION.—*The British Medical Journal* (February 21st) publishes an astonishing and well-nigh incredible case, which, however, was vouched for by Dr. von Guggenberg, who, in fact, exhibited the patient at the last annual meeting of Bohemian physicians at Tetschen.

On September 28, 1876, he was summoned at two in the morning to see a woman, who was said to have cut open her abdomen. He found the patient lying in a miserable house, on a wretched and dirty bed, exhausted and bloodless, and only capable of making affirmative and negative signs. On removing a dirty petticoat which covered her, an incised wound was seen on the right side of the abdomen, passing downward and inward, from which a somewhat large coil of intestine protruded, the greater part of which, covered with dried blood, rested upon a dirty blood-soaked straw sack. Hæmorrhage seemed to have ceased from every part of the wound, and the uterus was contracted to the size of a child's head. A fully developed, but dead, male child lay between the patient's knees.

Clean linen was procured from a neighboring house, and, with a piece soaked in oil, the protruded intestines were carefully wiped and returned, and the wound sewed up, the peritoneum being included with the skin. The incision was about three and one-half inches long, and slightly S-shaped. It was dressed with a five per cent. carbolic solution, fixed with strapping, and the abdomen was carefully bandaged. By the afternoon the patient was able to speak, and next day the history was taken. She had had seven children previously, four of whom had been born without medical assistance, two with forceps, and one after craniotomy. The pains began between September 24th and 25th, ceased in the afternoon, and came on again on September 26th, when the midwife stated that she felt the presenting head on vaginal examination. On September 27th, convulsions came on, according to the patient's account, accompanied by agonizing pain and great distension of the abdomen, the movements of the child ceasing. The pain and distension became so severe that the patient determined to perform Cæsarean section, of which she had heard. She, therefore, took a razor, and divided the skin slowly; she then made a second and third incision; and finding the child not yet appearing, made another cut, which caused a large jet of blood to escape, and exposed the placenta; this she removed.

One foot of the child came into view, which she seized and pulled upon until the whole of the body came through the wound, the head requiring the exertion of all her force. She divided the umbilical cord, laid the child (which she believed to be dead) beside her on the bed, and threw the placenta on the floor. She had passed neither urine nor fæces since September 24th. The progress of the case was very good; urine was passed on the afternoon of September 28th, but the first stool not till October 2d. The pulse reached 120° on the day after the operation, but was never again so frequent; the temperature is stated to have not been very high; and, although there was a considerable amount of exudation from the wound, it had united by October 3d. The patient soon returned to work, and has been ever since in perfect health.—*Boston Medical and Surgical Journal*, April 2, 1885.

AMENORRHŒA PRODUCING EXCESSIVE VASCULAR TENSION.—MR. E. PAGET THURSTAN reports the case of a young lady, æt. 15, of delicate constitution, who had a severe attack of enteric fever. Six weeks after the attack began there were no unfavorable symptoms except that the pulse ranged between 110 and 130. Repeated examinations of the lungs and heart failed to reveal anything abnormal. After a fortnight's treatment with digitalis and cinchona, the pulse was still hard, and ranged about 120. The dose of digitalis was increased from 10 to 15 minims of the tincture. A week's further treatment produced no effect. She was improving in all other respects, but the pulse still averaged 120. She had first menstruated a year prior to the fever. She had not menstruated since she was taken ill. He regarded these effects as due to the enteric poison. A month later, however, she menstruated once more, and the pulse at once subsided to 90.—*Brit. Med. Jour.*, April 25.

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THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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THE INFLUENCE OF SEA-VOYAGING UPON THE GENITO-URETINE FUNCTIONS.

Such is the title of a highly interesting and very valuable paper read before the New York County Medical Society on April 27, by DR. J. A. IRWIN, who is well known as a contributor to the subject of "Ship-Surgeons," which was discussed at such length about a year ago. Dr. Irwin's facilities for gathering material in the field covered by this paper have been very considerable. During the three or four summer months of 1879, 1881, and 1882, he served as medical officer on crowded transatlantic steamers, and at other times he has made voyages either as surgeon or passenger, to India, Africa, Brazil, and other countries, thus having been in charge of some fifteen thousand persons at sea.

In the first part of his paper he considers the effect of sea voyaging upon the menstrual function. In regard to this, he formed a record while on board vessels of 451 menstruations or missed periods occurring among women in whom the function was usually normal and regular. Of 288 women included in this number, all supposed to be non-pregnant and to have menstruated normally before the voyage, 21 passed the period while on board without the flow; 43 menstruated before the regular period; and 224 at the proper period, 23 of whom complained of unusual pain, and in a few cases there were complaints of increased or diminished flow; the remaining 201 were aware of nothing unusual that could be attributed to the voyage. The records of these 288 cases were made from information gathered by the stewardess, at Dr. Irwin's request. Of these then, 69.7 per cent. noticed nothing unusual in their menstruation during the voyage; of the 163 who came under his personal observation only 31.9 per cent. performed the function normally, and as on land. The difference in these results is due, he thinks, to the fact that the former cases were taken haphazard from women travelling in the steerage, belonging to the working classes as a rule, and of that general class which suffers least under ordinary circumstances. The 163 cases, however, were taken from among women who were almost all suffering in some way at the time that the investigations were made, and who were usually of higher social life, and more delicate. The primary causes for which these patients came under observation, were: sea sickness, 118; menstrual aberrations or dysmenorrhœa, 22; various or not recorded, 23. He is inclined to think that a more rigid examination of the cases reported would reduce the proportion of amenorrhœa, as well as of those who reported that there was nothing unusual in their sickness while on board.

Assuming, therefore, that disturbances of menstruation are of frequent occurrence at sea, how is the fact to be explained? "The special conditions of an ocean voyage which might be supposed to exercise an influence upon female habit may be classed under three headings: *Psychical*, depending upon the novelty of the situation and the apprehension of danger; *aërial*, in some quality of the sea atmosphere; and *motional*, as a direct result of the unaccustomed movement of the vessel. . . . It seems, therefore, a tenable supposition that mental influences occasionally play some part in the disturbances. . . . especially in the cases, by no means frequent, of a sudden arrest of flow in women who had embarked while actually menstruating. They cannot, however, be regarded as a principal cause." Just what influence sea air has upon female complaints it is impossible to say; for the few writers upon this subject differ to a very great extent.

The effects of the motion of a vessel upon the human system are very well known. "Whether manifesting itself as seasickness, drowsiness, constipation, menstrual aberration, or even in increased vitality, it is clear that sea motion disturbs in some way the established habits of the economy. . . . But by far the most striking of these effects is that which forms the subject

of this paper; and here I would state my conviction that menstrual disturbances on shipboard are almost entirely attributable to *the motion of the vessel.* . . . and that the constant tendency of this motion is to determine an increased blood supply to the pelvic organs. The result differs in degree from a slight and sometimes beneficial, circulatory stimulus, to a positive and dangerous engorgement; *but under all circumstances the primary influence is unquestionably congestive.*" The author regards it as an undoubted fact that the sympathetic system is at some time affected. "The irregularities in the advent, term, and quality of the catamenia, the frequent dysmenorrhœa, and the unusual intensification of the symptoms of local diseases are all such as should theoretically result from an unwonted vascular supply, and consequently hyper-congestion of the uterus and its appendages." He shows that a sea voyage may disturb the menstrual habit in relation to periodicity, duration, amount of excretion, and increment of discomfort.

"Of disturbances of periodicity, a premature return of the flow *is by far the most frequent*," as has already been noted by Barker, in his work on seasickness. It may occur at any time during the intermenstrual epoch, but is much more liable to do so when the voyage has been commenced during the first ten days after menstruation on land. Even if the influence be not so great as to cause a reappearance of the flow, the stimulus experienced may be so great as to lead to a diminution or suppression of it at the next regular period. Dr. Irwin says that, contrary to popular opinion, amenorrhœa is a rare condition even in long voyages, especially as a primary condition; but, on the other hand, "complete and passive amenorrhœa for one or more periods after landing is a frequent result of the Atlantic transit." It seems that the more common effect of sea motion upon menstruation is "an aggravation of whatever discomfort is ordinarily associated with that process. Unaccustomed pain marks equally the amenorrhœa or lessened discharge of the plethoric, as the increased and prolonged flow of the anæmic and neurasthenic. . . . In my opinion the statement may be accepted as universally true, that in every type of dysmenorrhœa the discomfort usually experienced will be increased *certainly at the first*, and usually at all subsequent menstruations during the voyage. . . . Next to seasickness, dysmenorrhœa in some form, and often accompanied by considerable intensification of the nervous and systemic phenomena which occasionally mark its advent, is the condition which most frequently appeals to the skill of the ship-surgeon," The author of the paper shows that a voyage made just before the natural advent of puberty tends to hasten the first menstruation, presumably from the stimulating character of the sea influence on the ovario-uterine system.

The paper is summed up by a reference to the cases most likely to be benefited by a voyage, and those in which it would be probably injurious: "An ocean voyage should be regarded as a *potent emmenagogue*, having, in addition to this special quality, a well marked tonic, alterative, and sedative influence. With this character it is entitled to head the list of therapeutic agents of similar effect, and should no longer be prescribed empirically. . . . There are cases in which these local and constitutional properties are especially indicated, and in which they may be jointly utilized with excellent results: In the conditions included under the term chloroanæmia; in amenorrhœa, dependent upon deficient tone, or an undeveloped state of the organs; in retarded sexual maturity; in certain forms of leucorrhœa, uterine asthenia, and sterility; and above all in those delicate, gawky, overschooled girls in whom abeyance of uterine function is often among the first warnings of approaching phthisis." It is his opinion that almost every form of uterine and ovarian disease becomes worse while at sea; and that this is especially true of cases in which there is local congestion; uterine displacements being especially liable to give trouble at sea. He records cases of intolerance of pessaries while at sea, and for several days after landing.

The remainder of the paper concerns the effects of sea-voyaging upon the condition of pregnancy. This is a subject, however, which is possibly of not so much general interest as that which we have discussed in the foregoing paragraphs.

It is to be regretted that space will not permit a more extensive notice of this truly valuable paper. There can be no doubt that it is the most comprehensive study of the subject that has ever been presented in any language, and that the information contained in it is of equal service to the ship-surgeon and to the general practitioner.

ATROPIA IN ETHER-NARCOSIS.

"Atropia as a Remedy in Ether-Narcosis" is the title of a paper in the *Medical Record*, of May 2, by DR. R. W. AMIDON, of New York. Almost everyone will agree with him that the methods of meeting the alarming effects of anæsthetics are not sufficiently defined, nor such as to reflect credit upon the science of medicine; that the cause of death in these cases is a combination of asphyxia and syncope, the failure of respiration being primary, while that of the heart is secondary.

It may be experimentally shown that in the case of an animal killed by ether-narcosis the heart will continue to beat with diminishing frequency and force and with constantly falling arterial tension for more than two minutes after the respiratory movements have entirely ceased. Dr. Amidon suggests that the probable mode of production of the lethal symptoms is about as follows: The fall of blood pressure is caused by —1. Exhaustion of the vaso-motor centre by accumulation of carbonic dioxide in the blood; 2. Gradual but almost complete emptying of the left side of the heart and arteries into the veins and right heart; 3. Weakening of the heart. The weakening of the heart is caused by—1. Over-distention of the right side of the heart from obstruction of the pulmonary circulation by infrequent and shallow respiratory movements; 2. Malnutrition of the muscular substance of the heart, which is supplied with (A) a diminished quantity of blood because of (*a*) the slowness of the beat, (*b*) the low blood pressure, (*c*) the emptiness of the arteries; (B) a poor quality of blood (a large percentage of carbonic dioxide). The slowing of the pulse is caused by—1. Stimulation of the inhibitory centre by CO_2; 2. unilateral over-distention of the heart; 3. Probable depression by ether of the motor functions of the accelerator centre for the heart.

It is thus seen that respiratory failure is very prominent in these cases; and the author of the paper in question justly criticises the inattention in the reëstablishment of the respiratory function in the treatment of ether-narcosis—not so much the inattention as the uncertain methods in use, and the exclusion of mechanical means or insufflation. He criticises also the administration of a synergist (alcohol) in these cases instead of an antagonist; and the tendency to administer a cardiac stimulant for exciting contractions in an over-distended right heart when the cause of the distention, the shallow and infrequent respiratory movements, has not been removed. He shows by a table that the symptoms referable to the skin, mouth and throat, intestines, urine, arterial tension, pulse, temperature, respiration, pupils, motility, reflexes, sensibility, and consciousness in ether-narcosis and asphyxia and in poisoning by atropia are entirely distinct, and such as may be readily seen at a glance; and he has proved the truth of this by experiments on cats. The results of his experiments, he says, "warrant the assertion that atropine, while it does not impair the anæsthetic power of ether, lessens its asphyxiating tendency in a marked degree; also, that when the stage of asphyxia has commenced, the respiration has ceased, and the heart is failing, a timely dose of atropia may save life, and we may hope that, with other means, it may be powerful in the treatment of suspended animation."

In concluding his remarks upon this subject, and in submitting suggestions as to the treatment of ether-narcosis, he recommends that to avoid the depressing effects of anæsthesia, the extremities of the patient should be thoroughly protected, and even warmed by hot bottles. For the treatment of the alarming symptoms which sometimes arise he deprecates the use of cold douches and slapping with cold towels, and thinks that hot applications made in this manner are also to be avoided. When the respiration becomes embarrassed, and the pulse begins to fail, the ether must be removed, the tongue and jaw drawn forward, and atropia administered hypodermatically if the respiration do not improve at once; at this time heat should also be applied to the limbs and over the heart. If there be no improvement in two minutes the atropia should be repeated. In sudden cessation of the respiration, when lifting of the jaw and other simple procedures fail to start it again, *mechanical* artificial respiration should be commenced immediately; and for this purpose he thinks that Sylvester's method is the best. Here also atropia should be administered as soon as possible; with hot applications to the extremities and precordial region, and a strong current applied diffusely over the chest with a wire brush, one electrode being placed over the spinal column in the cervical region. The atropia should be repeated if signs of recovery be not manifested in a minute.

It is also his opinion that venesection would be

of great service in these cases, if the subject be plethoric and no hæmorrhage has taken place; an opinion partly based on the fact that he has seen the heart commence to beat (in an experiment on an animal) after a free incision into the liver, or a section of some large venous trunk, or an incision into the distended right heart itself; which suggests that the operation of cardiac aspiration might be performed with benefit in some of these cases.

PAPER VERSUS SLATES IN SCHOOLS.

A correspondent in a recent daily paper over the *nom de plume* of "Parent," complains most bitterly of the action of the Board of Education in substituting paper blocks for the "slates of our daddies." Among other unreasonable observations, he says the action of the board "is certainly dictated by no principle of practical common sense." The writer does not know why the board substituted paper blocks for slates, but he does know that black on white is unquestionably far easier to determine than white on black, and consequently it removes one of the causes of myopia.

When we consider that myopia is greatly increasing in this country, and that it is the cause of about ten per cent. of all cases of blindness (*Ophthalmic Review*, April, 1885, p. 94) we ought to be very thankful that the board realizes in a measure its responsibility, and is determined to diminish, as far as possible, all known causes of myopia. "Parent" only objects to the difference in the expense. Of course it is hard for poor parents with a large number of children to pay for books, paper, etc.; but how much more expensive a single child with defective eyesight! There is no question but that myopia is developed in direct proportion to the unfavorable surroundings and the amount of near work exacted of the young; thus, according to Cohn's statistics in village schools, it was present in only $1\frac{4}{100}$ per cent. of the pupils, while in universities it was as high as 59 per cent.

AMERICAN MEDICAL ASSOCIATION.

The thirty-sixth annual meeting of the American Medical Association was held in Tulane Hall, in the city of New Orleans, La., commencing on Tuesday morning and continuing until the following Friday afternoon, as usual. The president, Dr. Henry F. Campbell, of Georgia, presided, ably assisted by Vice-Presidents Lynch, of Maryland, Mercer of Nebraska, and Parsons of New Hampshire.

A new and more systematic arrangement had been made for the registration of members, by which most of the crowding and delay experienced in previous years was avoided. Indeed, the entire work of the Committee of Arrangements had been well planned, and so executed as to add greatly to the comfort and convenience of all attending the meeting. The social entertainments were judicious in amount and exceedingly pleasant. The proceedings in the general sessions were characterized by harmony and good order, and the scientific work done in the Sections equal to most of the meetings previously held. The only subject on which action was taken of doubtful propriety, was in relation to the proposed International Triennial Medical Congress of 1887. The conflicting character of the resolutions adopted last year and this, will require much wisdom and moderation on the part of the committees to adjust properly. But we trust the adjustment may be made in such a way as not to materially injure the character and importance of the Congress itself. About 800 delegates and members were reported as registered at the meeting. The full official record of proceedings of the meeting will be given together as soon as received from the permanent secretary.

THE TREATMENT OF HÆMOPHILIA.

In the December number of the *Bristol Medico-Chirurgical Journal*, MR. J. GREIG SMITH reports two cases of hæmophilia, with remarks on the treatment of the affection. In the first case, the blood which came from the wound was of the ordinary watery nature, as observed after considerable hæmorrhage; the hæmoglobin was only six-tenths of the normal, and the corpuscles 1,600,000 instead of 5,000,000. One curious feature in this case was the fact that every large joint in the body has been affected at one time or another. Any little rough treatment would cause the joints to become distended, probably with blood. The joints usually fill in a few hours, cause much pain, and subside in a few days.

As regards the treatment of this affection, Mr. Smith has little to offer that is new, but his remarks are worthy of careful consideration. He does not believe in medicine; the patient should be let alone, he thinks, except that absolute rest in bed, mentally and bodily, locally and generally, with milk diet, and very simple dressings lightly

applied. The actual cautery, strong pressure, powerful astringents, and everything tending to destroy weakened tissues, are to be condemned. Even a nasal plug, if necessary, should be of the lightest; and it should be renewed once daily. He thinks that lint soaked in spirits of turpentine is the best local application. For constitutional treatment he has used gallic acid, in fifteen-grain doses every three hours, turpentine in dram doses every two hours, purgative salts and Rispini's styptic—all during the period of hæmorrhage. The perchloride of iron may be given in the intervals. He regards opium as very valuable during the bleeding; it quiets the patient, and thus gives physical rest.

STATE MEDICINE.

THE KANSAS MEDICAL LAW.

The following is a copy of the act passed at the last session of the Kansas legislature creating a State Board of Health:

House Bill 167: To create State and Local Boards of Health, and to regulate the practice of medicine in the state of Kansas.

Be it enacted by the Legislature of the State of Kansas: SECTION 1. Within thirty days after this act shall take effect, the governor, by and with the advice and consent of the senate, if it be then in session, shall appoint from different parts of the state nine (9) physicians who shall be men of good moral character and temperate habits, of not less than seven years' continuous practice in their profession, and each of whom shall be a graduate of a respectable medical college; and said nine physicians, when so appointed and confirmed, shall be known as the Kansas State Board of Health. Three of said physicians shall be appointed for one (1) year, three for two (2) years, and three for three (3) years; and annually thereafter the governor shall in like manner appoint three physicians of like character and qualifications to fill the vacancies occurring in said board by reason of the expiration of the terms of service, as herein provided; and the persons so appointed shall hold their respective offices for the like term of three years, and until their successors are appointed and qualified; but in no case shall the governor appoint a majority of the physicians that shall constitute said Board of Health from any one school of medical practice, nor shall said board at any time be composed of persons a majority of whom shall be of the same school of medical practice. Upon the appointment of the nine physicians provided for in this act, the secretary of state shall issue to each of them a certificate of his appointment; and within twenty days after such appointment the said nine persons shall meet in the city of Topeka, and they shall each take and subscribe the oath prescribed by law for state officers; which oath shall be filed with the secretary of state; and thereupon said board shall immediately organize by electing one of its number president. They shall also elect a secretary, and said secretary shall be the executive officer of said board, but not a member thereof. The secretary shall execute a bond in the sum of $5,000, which shall be filed with the secretary of state.

SEC. 2. The State Board of Health shall adopt and publish such rules as may be necessary to make this act effective and facilitate the transaction of its business. It shall provide a seal, and all correspondence and papers emanating from it shall be under the seal of said board. It shall meet quarterly, or oftener if deemed necessary, the first meeting to be held at Topeka. The annual meeting after the first shall be held at Topeka in June of each year. No member of the board shall receive any compensation for services rendered, except for travelling and other necessary expenses while employed on the business of the board. The secretary shall receive such compensation as may be allowed by the State Board of Health and approved by the governor.

SEC. 3. The secretary shall hold his office so long as he shall faithfully discharge the duties thereof; but may be removed for just cause at any regular meeting of the board. He shall keep a record of all the transactions of the board, shall communicate with other state boards of health, and with the local boards of health within this state.

SEC. 4. The State Board of Health shall supervise the health interests of the people of this state. They shall make careful inquiry into the cause of diseases, epidemics, investigate the sources of mortality, and the effects of localities, employments, conditions, habits, and surroundings on the health of the people. They shall advise officers of government, or other state boards, in regard to the location, drainage, water supply, disposal of excreta, heating and ventilation of public buildings. They shall collect and preserve such information relating to forms of disease and death as may be useful to them.

SEC. 5. The State Board of Health shall supervise the registration of marriages, births, and deaths, and also the registration of forms of disease prevalent in the state, and the secretary shall superintend the registration of the vital statistics of the state. The State Board of Health shall also prepare the forms and establish the rules by which permits for transporting the dead bodies of persons for burial beyond the county where the death occurs, and in all cases the said Board of Health shall require coupons to be attached to such permits, to be detached and preserved by every common carrier, or the person in charge of any vessel, railroad train, or vehicle to which dead bodies shall be delivered

for transportation. Any violations of these rules shall subject the offender to a fine of $10 for each offence.

SEC. 6. The State Board of Health shall appoint committees or engage suitable persons to render special sanitary service, to make practical or scientific investigations and examinations. And it is hereby made the duty of all officers and agents having the control of any public work to permit any examination ordered by said board, and the members of said board, and such other officer or person as may at any time be by said board authorized, may examine and survey all grounds, erections, vehicles, structures, etc.

SEC. 7. The county commissioners of the several counties of this state shall act as local boards of health for their respective counties. Each local board thus created shall elect a health officer, who shall be a member of the board.

SEC. 8. Every person proposing to engage, or to continue in the practice of medicine in this state, shall, within thirty days after the organization of the State Board of Health, present to the secretary of said board a diploma from a legally organized medical college, or an affidavit or other satisfactory evidence that the applicant is a graduate in medicine from such school, which shall be submitted to the State Board of Health at its next meeting; and, if satisfactory to said board, a certificate shall be given, which certificate shall be recorded by the county clerk and kept in the office of the county clerk, and this certificate shall be conclusive evidence of the right of the owner of the same to practice medicine in the place designated in the certificate; and any person who is not a graduate of a reputable school of medicine shall present himself before the State Board of Health at any regular meeting of the board, and submit to such elementary and practical examination by the board of health as shall test the qualifications of the candidate as a practitioner of medicine, surgery, and obstetrics; and every candidate passing a satisfactory examination shall receive a certificate. This act shall not apply to commissioned officers of the United States army or navy or marine hospital service.

SEC. 9. Every person applying for a certificate, as provided for in this act, as a graduate, shall pay a fee of $1; and every person applying for a certificate, on examination, shall pay a fee of $10, all of which shall be paid into the state treasury. And every person practising, or attempting to practise, medicine in this state without such certificate regularly filed with the clerk of the county in which he resides, shall, upon conviction, be fined not less than $10 nor more than $100 for each and every offence, to which may be added imprisonment not to exceed ninety days. And a person filing, or attempting to file, as his own a bogus diploma or a false affidavit of identification, shall be guilty of a felony, and, upon conviction, shall be subject to such fine or imprisonment as provided by the statutes of this state for the crime of forgery, and shall forfeit all right to practise medicine in this state. And any itinerant physician who shall, by writing or printing, or by any other method, publicly profess to cure or treat diseases, injuries, or deformities, shall pay to the state treasurer a special tax of $100 each month he shall practise: and for every failure to pay such tax prior to engaging in such practice he shall, upon conviction, be fined not less than $100 for each offence, or imprisonment for not less than ninety days in the county jail, or both.

SEC. 10. It shall be the duty of every physician practising his profession in the state of Kansas to keep a record of the deaths occurring in his practice, noting the form of the disease, and to report the same to the local board of health; and any failure to do so will subject said physician to a fine of $10 for each offence.

SEC. 11. It shall be the duty of assessors of personal property in the several townships and wards of cities throughout the state annually to collect such information as to marriages, births, and deaths as may be required by the State Board of Health, and report the same to the local boards of health.

SEC. 12. It shall be the duty of the State Board of Health, on or before the first Monday in January of each year, to make a report in writing to the governor of the state upon the vital statistics and the sanitary condition and prospects of the state, and shall suggest any further legislation deemed proper for the better protection of life and health. The annual report of said board shall contain a detailed account of the money paid out by or on account of said board and a detailed statement of the manner of its expenditures during the past year, but the amount shall not exceed $5,000 in any year.

SEC. 13. All prosecutions under this act shall be conducted by the county attorney for the county in which the offence was committed, in the court having jurisdiction; and all fines imposed and collected shall be paid into the county treasury to the credit of the school fund.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Professor Sée on Prescription Writing—The Alcohol Treatment of Pneumonia—Cocaine—Death of Dr. Bovell-Sturge.

Professor Germain Sée lately delivered a very interesting lecture at his clinic at the Hôtel Dieu, on the importance of writing out prescriptions properly. A prescription, he said, should be based on physiological and therapeutical science; but how many physicians simply copy the formula of some specialty without stopping to inquire whether it would be suited

or not to the case they are called upon to treat. He has therefore found it expedient to institute a course of lectures on what he termed clinical therapeutics.

He proposed treating of the subject as follows: 1. The art of formulating, which concerns the pharmacien; 2. The art of prescribing, which interests the patient himself, and instructs him as to when and how he should employ his remedies; 3. The art of dosing, which is more a science than an art. He then developed these heads in the following terms: The shortest prescriptions are the best. Avoid all unnecessary association of several drugs in the same formula, and guard against imitating the ancients, who attributed the efficacy of their drugs to some mysterious alloy of substances sometimes most dissimilar. Recourse must be had to the most simple vehicles; water or syrup for soluble substances, mucilage for those that are insoluble. There can be no inconvenience in associating in one formula substances chemically antagonistic, opium and tannin, for example, which latter precipitates the alkaloids. That which it is most important never to associate are physiological antagonists, as opium and belladonna, the bromide of potassium and the iodide of the same metal, etc., and yet such combinations are daily to be met with in the prescriptions of some of the most eminent physicians of the day. The dosage of medicines is of the highest importance, as when a drug is administered in a smaller dose than that assigned to it by experience, its therapeutical action cannot be expected, and when given in overdoses the patient is simply subjected to slow poisoning,

In the treatment of pneumonia by alcohol, the usual practice, in France at least, is never to give more than 50 or 60 grammes of alcohol a day, whereas Todd, who originated this treatment, gave his pneumonic patients as much as 300 to 500 grammes daily of old brandy. This, Professor Sée considered rather a large quantity, and he himself prescribes brandy to the extent of only 250 grammes a day. Under the influence of this quantity which would be considered an exaggerated one in health, patients experience only a little excitement and a happy feeling; they do not feel in the least intoxicated, and what is more advantageous to them is that they get well. The explanation given of this phenomenon is that which was taught by the late Claude Bernard: the patient acquires a physiological state peculiar to himself; it is not a new physiology, it is a physiology in new conditions.

Like all good things in this world, cocaine, which has been recently introduced into practice, and been adopted with such enthusiasm, has also its reverses. In the first place its extreme dearness is a great drawback, but this no doubt will soon be overcome, as the remedy will become more general, and consequently the demand for it greater. But what concerns patients and medical men most is its deleterious effects, which are more or less marked, according to the susceptibilities of the patient, even when employed externally. In a case of phthisis, in which the patient was subject to violent attacks of dysphagia, Dr. Ernest Labbée employed the following solution, with which he painted the epiglottis twice a day: hydrochlorate of cocaine, 1 gramme; rectified alcohol, 2 grammes; distilled water, 10 grammes. This solution afforded great relief during the first two days; but on the third day, symptoms of poisoning set in, which were marked by great physical and mental depression, a thready pulse of 100 to the minute; sleep heavy, but the patient was much agitated, and at the same time greatly prostrated. The application was discontinued, and the above symptoms disappeared, but the relief that the patient experienced at the commencement (deglutition without pain, digestion good, a feeling of coolness in the regions of the pharynx and larynx) persisted even after the eighth day.

The death of Mrs. Bovell-Sturge is announced as having taken place on the 2nd of April. Miss Bovell was one of a party of young ladies who some years ago went to Edinburgh with the view of studying medicine, as they could not get admission to any of the other medical schools in Great Britain; but there were so many difficulties thrown in their way that they were obliged to give up the idea of prosecuting their studies there. Miss Bovell then determined (1873) to go to Paris, and after having studied medicine and walked the hospitals for four years, she took her degree as Doctor of Medicine of the Faculty of Paris in 1877, after having passed her examinations in a highly creditable manner. The subject of her thesis was: "The Congestive Phenomena Consecutive to Attacks of Epilepsy and of Hystero-epilepsy." After having taken her degree she went to London to set up in practice, and there married Dr. Allen Sturge, of that city. She was shortly after appointed physician to the New Hospital for Women, where she was highly appreciated for her services. Ill health, however, having compelled her to leave London for a more genial climate, she went to Nice with her husband in 1881, where they settled in practice. A. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM PHILADELPHIA.

(FROM OUR OWN CORRESPONDENT.)

A Lecturer on Physiology Appointed in the University—A Professor of Chemistry Elected in the Jefferson College—University News;—Veterinary Department; Biological Department; Commission to Investigate Spiritualism; Prof. Osler's Gulstonian Lectures—Dr. Sternberg and Dr. Gihon in Philadelphia—The Philadelphia Water Supply.

Since my first letter, the two professorial vacancies referred to in it have been filled, the

one, as predicted, by the election of a candidate for the position to lecture for a year, at the end of which time the chair will probably be permanently filled. This refers to the chair of physiology in the University of Pennsylvania. Dr. Edward T. Reichert was, at a recent meeting of the trustees, appointed to deliver the lectures on physiology for a year. Dr. Reichert graduated at the medical department of the university in 1879, and has since devoted himself to the study of experimental physiology and therapeutics. He has written a number of useful papers on these subjects, and has done considerable experimental work with Dr. S. Weir Mitchell, whose support he had for the position to which he has just been chosen. The chair of chemistry in the Jefferson Medical College has just been filled by the election of Prof. Holland, of Louisville, to succeed Prof. Mallet. Prof. Holland is a graduate of the Jefferson school, of the year 1868. For the position to which he has been chosen there are said to have been a very large number of applicants, several of whom reside in this city, and some of whom had strong hope of being elected. But the Jefferson College has again gone abroad for a teacher; perhaps because it has not regretted the policy which brought to it such men as Professors Gross, Bartholow, Parvin, and Mallet. Certainly, aside from the natural preference of a Philadelphian that the market should be supplied from his own vicinity, it would be hard to point out any impropriety in the trustees exercising their discretion by choosing what and where they think best.

In the University there is always something going on. Since my last letter, besides what I have already mentioned, there has been an appropriation of $16,000 by the trustees for additional buildings for the Veterinary Department, which are to contain a bath for sick, and a room for insane animals. The Biological Department has also received an addition to its funds, and the gift of a valuable herbarium from Mr. Isaac Burk. An interesting matter in the history of the University is the investigation of so-called spiritualism by a commission, supplied by funds for the purpose by a bequest from a Mr. Seybert, a rich citizen of Philadelphia, recently deceased, who was much interested in this subject. This commission is said to be almost ready to make a report. It has endeavored to conduct the investigation fairly and thoroughly. Invitations were sent out to a large number of professional mediums in the country, and to a number of men who profess to expose or imitate spiritual manifestations. Among the mediums who have given private *séances* to the commission are Dr. Slade, of New York, Mrs. Lord, and others; while the opponents of spiritualism have been represented by such men as Mr. John Truesdell, of Syracuse, N. Y., who made an amateur study of spiritualism, and wrote the *exposé* entitled "Bottom Facts," and Mr. Kellar, the professional magician, whose performances far surpass in fairness and incomprehensibility the best performances of the spiritualists. Of the latter fact your correspondent may speak with some assurance, as he has personally investigated the performances of Mr. Kellar, and learned to admire their mystery and the openness with which they are done. He, and such men as he, have imitated before the commission the most important tricks of the mediums, such as slate-writing, reading and answering sealed letters, and the so-called cabinet tricks, as well as such inferior performances as table tipping and rapping. It is not known to what conclusions the investigations of the commission have led, but it is suspected that they coincide with those of most sensible people who are not of the commission. If, however, they have met with manifestations of spiritualism which seem to them inexplicable by natural forces, they will not be afraid to say so.

Professor Osler, who came so recently from Montreal to the University, has just returned from his trip to England, where he delivered the Gulstonian Lectures for this year before the Royal College of Physicians. These lectures, on "Malignant Endocarditis," have been so widely published in the medical journals of Great Britain and of this country that it is hardly necessary to more than allude to them. But it may be interesting to note that, besides the appointment of Professor Osler to deliver these lectures being a personal compliment, this fact, and the high character of the lectures themselves, are calculated to attract attention abroad to the labors of American physicians in the field of science.

We have been having a lecture before the Pathological Society by Dr. Sternberg, of the U. S. Army, on the great bacteria question, the instructiveness of which was followed by the attractions of a supper at the Social Art Club. Only the day after this Dr. Gihon, of the Navy, gave the third of the series of popular lectures on hygienic subjects before the County Medical Society, and the public. His subject was "Sanitary Ignorance," and it was handled in the usual manner. The preceding lecture, by Col. Ludlow, on the water supply of Philadelphia, and its relation to the public health, of which I spoke in my previous letter, stirred up a hornet's nest. Some of the city councilmen took great umbrage at it, and succeeded in having a resolution passed requesting the colonel (who, as I explained, is chief engineer of the Water Department), to cease to lecture in such a manner as to alarm the public. Colonel Ludlow replied that his lecture was not calculated to alarm, but to instruct the public, and criticised sharply the language and manner of some of the councilmen who, in discussing the resolution, had spoken most intemperately and offensively about him. As all Philadelphia considers the present chief engineer the most efficient we have ever had, and as the oppo-

sition to him comes principally from men who cannot forgive him for taking the Water Department out of practical politics and managing it on strict business principles, and as there is the best ground for complaint of the influence of politics on the water supply of the city, the whole thinking part of the population is on the side of Col. Ludlow. The County Medical Society, by special resolutions, has approved of the matter and manner of his lecture and indorsed his position in relation to his critics in Councils. As the discussion of the impurity of Philadelphia water has been widespread, and as its drawbacks have been sometimes exaggerated, it may be worth while to say that, while there is no good evidence that the water drunk here is dangerous to health at present, it is certainly far from pure, and often very unpleasant to the senses of smell and taste. For these reasons alone it should be attended to; and, further, under the existing circumstances, the character of our water is likely to deteriorate as years go by, and it is high time the community should be stirred up sufficiently to force their representatives to do what their own sense of what is right should have prompted them to already: that is, to give the citizens a water supply which it would be no disgrace to have most thoroughly and freely discussed. Unfortunately, at the present time this city has had a relapse from the virtuous standard toward which it made such heroic strides a few years ago. It has come again under the almost full control of what are known as "the politicians," and it is as much as we can do to save here and there an important office from the managers. Col. Ludlow was elected by Councils under the pressure of the reform wave, but now they would be glad to get rid of him. It is to be hoped that, so far from this happening, as it only could by some motion of this officer, it may prove feasible to long retain in the service of the city so competent and so conscientious a head of a department. C. W. D.

THE QUESTION OF INEBRIETY.

Some time since the writer published in the New York *Medical Record* a short article upon this subject, taking the view that, though vice is not always the cause of inebriety, it is a very prominent factor in its causation, thus controverting a rather radical opinion expressed by an able physician of Hartford, Conn. Since that time some private correspondence has passed between that gentleman and myself, among which was a request from him that I would give the matter careful clinical study, which it has been my endeavor to do. Having done this, while it has no doubt increased my appreciation of the importance of the relation of disease to inebriety, it has also strongly confirmed the belief that vice, or vicious influences, hold a no less important relation to that condition. To say that inebriety is always, in all its stages, a disease, is so absurd, so contrary to every-day evidence, that a refutation or a contrary statement of opinion would seem to be scarcely necessary. Yet there is a certain class of physicians, for whose opinions I have the highest regard, who are guilty of just this seeming absurdity. They are not even willing to concede that it is a matter susceptible of argument, claiming that all preconceived theories and notions of moralists and others must yield to what they consider to be a scientific fact, as they understand it. It is a forced issue, and to meet it trite facts must be restated and new evidence elaborated: To my mind it is similar to the question of the contagiousness of tuberculosis. While some experimenters are spending the best moments of their lives trying to prove the contagiousness of that disease, the solid facts of years of experience still convince us that it is not so.

There are two classes of conditions which predispose to inebriety, viz.: the unavoidable and the accidental or occasional, or, with some limitations, the converse of the first, the avoidable. The first class consists almost, if not quite, wholly of the sequences following one general condition—heredity. A hereditary disposition to become a drunkard does not necessarily imply that a parent, or any other ancestral relative was a drinker to excess, or even a drinker at all. It does not imply that a father or a mother, or any other relative, was addicted to any vice whatsoever, and may not have been as pure, morally, as the angels in heaven, though it may imply all of this. The inebriate's parent may have been an epileptic or a fool, or may belong to the race of modern dudes, though in all other respects without fault. Neither one of these three transmitted to his offspring a direct tendency to drink, or probably a tendency to any other direct evil; transmitted, in fact, nothing but a weakened intelligence. But a weak intelligence means a small power of will, combined with an inability to foresee results; consequently the individual falls into the trap nearest his hesitating step. Once in, he has not the power to get out, the nutrition of the nerve centres being further impaired by each successive indulgence. The weakness of the will power renders all kinds of bodily distress or mental worry especially hard to be borne, and the temptation to relieve them by narcotic indulgence more readily yielded to. The end in such cases is not far, nor yet uncertain.

Conversely to the above statement is another proposition equally true, that an inebriate progenitor may not always, indeed, may never, transmit to his children a tendency to the same evil, but the heredity may consist in insanity, epilepsy, or some neuralgic affection. In my judgment to this point is about as far as we can carry the disease theory of inebriety. In so far it is a disease not acquired, but hereditary, and only this so far as hereditary weakness of mental power conduces to this result.

Perhaps the most prominent among the accidental causes of inebriety is the accident of environment. The community in which a youth spends his opening years, will, as a rule, shape his entire habits of life. Two boys of like mental habits and impulses, the one placed for ten years in a beer-drinking community, without special religious training, the other placed in a Christian family, in a religious community, though not without drinking places, will grow up to be correct representatives of their surroundings. I know of a whole neighborhood in which beer drinking is indulged in unanimously, and I know of another neighborhood in which it is, practically speaking, never used. Who can doubt, religious considerations aside, that the young men and women of the one place drink their beer because it is the custom, and those of the other place abstain for the same reason?

The accident of one's surroundings is a potent factor in the causation of inebriety. The accident of occupation is important. Who ever saw a non-drinking saloon keeper, or brewer, or distiller of spirits? There may be some, but the exceptions are rare. Wine and spirit salesmen are practically all drinkers. Next to these, perhaps the most numerous class of regular tipplers is found among the fraternity of travelling salesmen. This is Anstie's experience, and he also says that he has found the most confirmed inebriates among those whose occupation is monotonous, especially barbers and shoemakers.

Those who drink heavily and are oftenest intoxicated are among individuals whose occupation subjects them to severe exposure to the weather, rough physical labor, and continuous low companionship. The reason for this state of affairs is found in the constant familiarity, direct and indirect, with the intoxicating agent — which familiarity does not, as it should do, breed contempt. A depressed mental condition, caused by loss of fortune or occupation or of dear friends, while possibly a diseased state, is yet among the accidental causes of inebriety, and the victim seeks the narcotizing agent, not to fulfil his purpose in its use solely, but that he may through its influence find oblivion. The same individual would as readily use opium, or hasheesh, or chloral, if they were as convenient, and would answer the purpose as well.

In my judgment the vast majority of inebriates are such because they choose to be; and their choice is decided, either by vicious associations, or by a depraved personal disposition, or both. The remainder are victims of a direct hereditary predisposition to the use of intoxicating agents, or of a hereditary deficiency of brain power, rendering them peculiarly liable to yield to external temptations. Even in this class of cases vice may, and probably does, bear a remote relation to the present condition.

J. B. STAIR, M.D.

SPRING GREEN, WIS., April 25, 1885.

NECROLOGY.

REPORT ON THE LIFE AND CHARACTER OF PROFESSOR SAMUEL D. GROSS.

BY AUSTIN FLINT, SR.,

CHAIRMAN OF THE COMMITTEE.

Read to the American Medical Association, April 28, 1885, by T. G. Richardson, member of the committee.

On the fifth of May, 1884, I was at the bedside of the one who, above all his brethren, was held in honor and esteem by the medical profession of America. It was but too apparent that the labors in this world of Samuel D. Gross had ended, and that he was near the end of his earthly life. I left his bedside to be present on the following day, at the annual meeting of the American Medical Association in Washington. The President of the Association in his opening address referred to the absence of Professor Gross in connection with a request from him in a letter which was one of the last, if not the very last, written before his departure to another life, that an invitation be given by the American Medical Association to the International Medical Congress to hold its meeting in this country in 1887. The announcement of the serious illness of Professor Gross called forth a quick and warm response from the members of the Association. It was a remarkable coincidence that at the very hour the Association was engaged in a discussion as to the manner in which heartfelt sympathy should be expressed and conveyed to Professor Gross, he was in the article of death. The telegram which carried the resolutions adopted by the Association reached its destination but a short time after he had breathed his last.

On the announcement to the Association of the death of Professor Gross, a committee was appointed to "take such action as it might deem proper."[1] As the chairman of this committee, with the approval of my fellow members, I submit to the Association some reflections on a life memorable for services in behalf of medicine and the medical profession; a life precious as an example, and a character which inspires esteem and affection.

I do not propose to write a biography of Professor Gross. This has been done by able hands.[2] Nor would I have my reflections regarded purely in the light of a eulogy. My desire is to contemplate his life and character from the vantage-ground of a long and intimate personal friendship. Disclaiming any attempt at rhetorical efforts in the way of panegyric, I will survey his life and character with reference to his long and preëminently successful professional career, and to the qualities which distinguished him as a man.

[1] The members of the committee are as follows: Dr. A. Flint, T. G. Richardson, L. A. Sayre, John H. Packard, F. H. Hamilton, Moses Gunn, William Thomson Briggs, and I. M. Hays.

[2] Memoir by I. Minis Hays, Am. Jour. of Med. Sciences, July, 1884. In Memoriam, by Professor J. M. DaCosta.

My friendship with Professor Gross commenced when we were colleagues in the medical department of the University of Louisville in 1852. Friendship ripened quickly into close intimacy, which continued without, for an instant, a shadow of a difference, up to his death. We were more than friends. Esteem and affection are terms which, although superlatively qualified, express inadequately my attachment to him. I loved him. The sentiment of love—that divine attribute of humanity—was, I believe, reciprocal. I can, therefore, as I think, without presumption, view his life and character with an insight embracing the feelings, aims, and motives underlying external appearance and actions.

The life of Professor Gross, from the beginning to the end of his long professional career, was a life of work—work as a student, a writer, a teacher, and a practitioner. From first to last he was a diligent student. If in his advancing and advanced years he held tenaciously to opinions previously formed, it was not from any lack of knowledge covering recent views, but because they failed to subvert his convictions. To hold fast to these after due deliberation was a strong mental characteristic. His was not a mind to be carried away by every wind of doctrine. He may have been open to the charge of an undue tenacity of convictions, but, if so, it was not from a pride of personal opinions, but from a reluctance to relinquish aught which he had been led to believe was true. Conservatism entered largely into his mental constitution. His mind rebelled against immature innovations. Yet no one at heart was more desirous than he for progress in medical knowledge and improvements in its practical applications.

A few months before his death I was present with him at a consultation in a case which involved certain surgical questions. He entered fully into a discussion of these and of kindred topics which the case suggested. Associated in the consultation was a comparatively young surgeon, eminent for his knowledge of the literature of surgery as well as a skilful operator. He afterward expressed his admiration at the familiarity of Prof. Gross with the latest contributions to surgical knowledge, not only in our own language, but in that of Germany and of France. The last edition of his great work on surgery, published but seventeen months before his death, as I am informed by those competent to judge, is remarkable as showing a thorough acquaintance with contemporaneous publications, bibliographical and periodical, relating to the surgical department of medicine. His life-work exemplifies the motto, "Once a Medical Student Always a Medical Student"—a motto which all who aspire to true success in the profession of medicine will do well to adopt.

Professor Gross commenced the practice of literary composition at the very beginning of his professional life. Ten months after his graduation he had translated for the press four works, three of which were in the French and one in the German language. At the end of two years he had published his first original work, a "Treatise on the Anatomy, Physiology, and Diseases of the Bones and Joints." Afterwards, up to a few weeks before his death, his pen was never idle. As is well known, he was a voluminous writer. His vacations were infrequent and generally of brief duration. He was always engaged either in writing or in making preparations to write some one of his many and various contributions to medical literature. The six editions of his great work, "A System of Surgery," represent an immensity of labor. Collectively, the productions of his pen must seem to many astonishing, especially when it is considered how much of his time was necessarily occupied with the duties of a medical teacher and practitioner.

From his life as an author may be learned the importance of early practice to those who aspire to authorship. How many who cherish such an aspiration in the dim future, remain content with present inaction! Continued procrastination is equivalent to indefinite postponement, and the latter to inability. The art of composition, in addition to ambition and capacity, requires practice, and practice comes from love of that kind of work. Authors in medicine do not spring like Minerva in full armor from the head of Jove.

Another lesson which his life teaches is that great literary labors may be performed in conjunction with other occupations which are irregular, time-consuming and claiming precedence. Under how different circumstances are these labors performed by the medical practitioner and teacher, as compared with those who make literature a profession. The practice of medicine often leaves but few hours of leisure. They can rarely be counted upon, and to systematize them is seldom possible. Moreover, the duties of medical practice engross not only the time, but the thoughts and feelings of the practitioner. How was Professor Gross able to accomplish such a vast amount of literary work? By the use of whatever hours could be appropriated without the neglect of professional, social, or domestic duties, and by utilizing the scraps of time which would otherwise be lost. For the evenings or portion of evenings which would be appropriated for study or writing he was at home only for his intimates, and they were considerate enough to disturb him but seldom. A large part of his writings, as he assured me, was composed in his carriage while driving to see his patients. The aggregation of the results of this system of daily industry would seem incredible to one not prepared to form an estimate by observation or personal experience.

Professor Gross resolved at the outset of his professional life to become a medical teacher. Is not this true of most of those who have been eminently successful in acquiring the art of teaching? Observation shows that few who begin late in life attain to much success. In

many respects Professor Gross was a model teacher. As a speaker he was fluent, deliberate, clear, and emphatic. His hearers could not but feel that his object was to instruct, not to excite admiration for his own attainments or skill. He had the faculty of appreciating the kind of information to be communicated by oral teaching to medical students, and of knowing how to communicate it. Herein lies the secret of the successful teacher and of his popularity as such. The personal appearance of Professor Gross in the lecture room was most prepossessing. His tall, commanding figure, his clear voice, his features beaming with intelligence and animation, his zealous manner—all contributed to render his teachings effective. He had that magnetism, attracting to himself the attention and interest of his audience, which is a gift invaluable to a speaker. Apart from these advantages, his pre-eminent success was an outcome of his love of the labor and a deep sense of the responsibility which the duties of a teacher involve. As an evidence of the latter I quote the words with which he concluded his inaugural address on entering upon the duties of professor of surgery in the Jefferson Medical College: "Whatever of life and of health and of strength remain to me, I hereby, in the presence of Almighty God and of this large assemblage, dedicate to the cause of my Alma Mater, to the interests of medical science, and to the good of my fellow creatures."[1]

As a practitioner, the characteristics of Professor Gross, irrespective of his ability and skill in medicine and surgery were attentiveness and a deep interest in his cases, conjoined with geniality and kindliness. These characteristics were in harmony with self-respect. He neither belonged to the bullying nor to the cajoling class of practitioners. His face and manner brought into the sick-room beatitude. In this aspect his professional life might well be held up as a model for imitation.

Turning from the life picture of Professor Gross in its professional aspects, the contemplation of his character as a man awakens higher sentiments than admiration. As a student, author, teacher and practitioner, he was grand, but it is more pleasing and ennobling to associate his memory with his domestic and social relations. In him there was not that incongruity so often painfully conspicuous between the outer and the inner man. We cannot but admire the achievements of his intellect, but the excellency of his heart inspired affection and love.

Sensitiveness and tenderness he had in a marked degree. In the performance of his professional duties these were held in complete control by the force of his will; but there were occasions when his feelings could not be kept in restraint even in the presence of other than his intimate friends. When we were colleagues at Louisville, on one occasion, on entering the college amphitheatre with a friend who was desirous of listening to his lecture, a remarkable spectacle presented itself. Professor Gross was walking backward and forward, his arms folded and his eyes fixed upon the floor. There was perfect silence and the faces of all the members of the class expressed distress. The moment he saw me he exclaimed: "Professor Flint, I have been deeply insulted!" I suggested to him quietly that we should retire to another room. I then learned that some one had placed on his table a package with a note asking him to make its contents the subject of his lecture. He unrolled the package before the class and found that it contained an injected specimen of the male organs of generation. He said nothing but assumed the attitude in which I had found him. I suggested to him that there had been no intention of offering an insult, but that a coarse-minded, thoughtless student had sought to practise an amusing practical joke, and that the appearance of the class showed their profound sympathy. He at once accepted this explanation, returned to the amphitheatre and gave his lecture with his usual clearness and animation.

The death of Daniel Drake took place during a winter session of the college at Louisville. With Dr. Drake he had been associated as a colleague, and they were warmly attached friends. He attempted to announce to the class the death of his friend who had been recently connected with the college. He had scarcely commenced when his feelings overcame him; he was unable to go on; his utterance was prevented by audible sobbing, and he was obliged to leave the lecture room.

His kindliness toward every one with whom he was brought into contact was a noticeable trait of his character. There was no appearance of pseudo-dignity, nor of the cold reserve of self-conceit. That he was gratified by the approbation of others, and pleased by the honors which were showered upon him, he made no effort to conceal. He was, however, as desirous of honorable estimation for his friends as for himself. He was ever alive to opportunities to promote the welfare and reputation of those to whom he stood in friendly relations. He was prompt to encourage worthy efforts in the way of contributions to medical knowledge, by those with whom he was personally unacquainted. Many a writer, a stranger to Professor Gross, has been surprised by a note from him expressing his gratification and kind wishes. He was a constant attendant of the meetings of the American Medical Association, and how many can recall with pleasure his benignant smile and cordial salutations! All who have known him will remember the quiet, playful humor associated with his kindly disposition. His badinage was of a nature to enliven, but never to offend or to cause pain. Sarcasm and ridicule had no place in his discourse. His conversation was never profane or unclean. No one ever heard from

[1] Quoted from the biographical sketch by J. M. Da Costa, M.D., LL.D.

his lips an oath, an obscene story, or a ribald jest.

He was distinguished for his hospitality. His home was open to all who had any claim upon his hospitable attentions. At his table were to be met guests, distinguished in the world of letters at home and abroad, associated with young physicians and medical students who had been commended to his favor. He was considerate and generous alike to all. The beauty of his character was never so finely displayed as in the circle of his family and congenial friends. They who were privileged to enter this circle are blessed with sweet remembrances which must now take the place of those social pleasures that death has interrupted.

The character of Professor Gross was full and round. It had no glaring defects. It was not angular or distorted. He had quick, strong impulses; but they were generally right, and he was not led astray by them if their tendency was otherwise. Under the great difficulties incident to his professional avocations, his industry enabled him to perform an immensity of literary work; but he never neglected the duties of his profession or the obligations incident to domestic and social relations. He was fond of amusements and rational conviviality; but his life affords no sanction of immoderate devotion to pleasure. He was temperate in all things without asceticism or fanaticism. What were his religious views I suspect his most intimate friends did not know; these he kept among the secrets of his thoughts and experience. It is certain that his mind was far removed from bigotry, and, in my belief, it is not less certain that he had faith and trust in a supreme, paternal Governor of human affairs. He had a frank, open nature. He was open-handed but not improvident. He was generous as regards his professional services whenever circumstances called for the exercise of generosity.

It was my privilege to see him repeatedly during the last days of his life. Feeble as he was, his cheerfulness, his inclination to humor, and his hospitable attentions did not leave him. He talked with interest of the meeting of the American Medical Association, which was near at hand, and of the International Congress which was to meet at Copenhagen in a few weeks. He expressed regret that he could not be present at these meetings. In answer to the question by his friend and former pupil, Professor Richardson, What message he wished to send to the members of the American Medical Association, he said: "Give them my love." He manifested pleasure in the announcement, shortly before his death, that the University of Edinburgh had conferred on him the degree of Doctor of Laws. He declared that he had no desire to outlive the capability of work and his usefulness. He died without much suffering and with all the devoted members of his family around his dying bed.

So passed away, having nearly reached the age of four score years, one whom all delighted to honor. His physical strength was not greatly impaired up to a short time before his death, and his mental faculties were maintained to the last. We shall see him no more in this world, but his life-work and his character, death cannot destroy; these remain a priceless legacy to the profession which he loved, and which will ever hold his memory in grateful remembrance.

BOOK REVIEWS.

INJURIES OF THE SPINE AND SPINAL CORD WITHOUT APPARENT MECHANICAL LESION, AND NERVOUS SHOCK, IN THEIR SURGICAL AND MEDICO-LEGAL ASPECTS. BY HERBERT W. PAGE, M.A., M.C., Cantab., F.R.C.S. England. Surgeon to and Lecturer on Surgery at St. Mary's Hospital, etc. Second Edition, 8vo, pp. xii, 397. Philadelphia: P. Blakiston, Son & Co., 1885.

The Boylston Prize Essay, for 1881, was a dissertation on "Injuries of the Back, without Apparent Mechanical Lesion, in their Surgical and Medico-legal Aspects," by Mr. Herbert Page. This essay was formed of parts of the present volume, as was stated in the first edition, which appeared in this country in 1883. In its main features the second edition differs but little from the first, although it has been quite thoroughly revised.

Until the appearance of this book the only publication treating of injuries of the nervous system due to railway shock, was the small volume first published in 1866, by Mr. Erichsen, and which was subsequently enlarged under the title of "Concussion of the Spine." Mr. Erichsen's book was long considered authoritative work on this subject, but the general opinion after the appearance of the first edition of Mr. Page's book was, that it would supersede the former. This opinion seems to have been justified by the demand for this book, and by the frequency with which it has been quoted and referred to since it was published. It is the first work of the kind which has treated of the subject both from the standpoint of the surgeon and of the medical jurist. For quite a number of years the author has been surgeon to the London and Northwestern Railway, and has had abundant opportunity for gathering clinical material for a work of this kind. But he asserts that his connection with that line is not such but that he can write with a spirit of perfect fairness on this subject; and those who will read the book will see that it is characterized throughout by fairness and justness to all parties, which gives an additional interest and value to it.

The frequency with which "spinal injury" is the plaintiff in suits against railway companies has been often remarked upon, both in this country and in Europe. Doubtless when a person has been severely shaken in an accident he thinks that he should have some compensation

for the fright (otherwise called nervous shock); and if he happens to feel a pain in a limb or in his back within the following two or three months, his spirits revive and he comes into court with a fifty-thousand-dollar case of locomotor ataxia. And it is singular that these are the cases of locomotor ataxia which recover soonest — some almost immediately — after their injured spines have been soothed by large damages, or by nothing at all. This disease might prove very much less formidable could we in some way apply this unpharmaceutical remedy in all cases.

The first chapter of this book is devoted to the subject of "Concussion of the Spinal Cord," in which are discussed the gravity of injuries to the spinal cord; the supposed effect of railway collisions upon the cord; Brodie's classification of injuries to the cord; intraspinal hæmorrhage; cases of concussion lesion, by Brodie, Abercrombie, Bell, Mayo, and others; and the danger of spinal cord lesions. The second section of the first chapter deals with the analogy between concussion of the brain and concussion of the spinal cord; lesions in brain concussion, the views thereon and cases of Hewett and Hutchinson; classification of concussion injuries of the brain; the physical surroundings of the brain and spinal cord; views of Savory; and cases of concussion of the cord by Abercrombie, Liddell, and others, with conclusions. And in this chapter we have to record our first objection to this book; not an objection to the book as a whole, but to a piece of what may be called bad judgment. In quoting from Boyer, giving the report of a case of spinal injury, Mr. Page has given the report in the original French — more than a page; now while the greater number of the readers of the book are probably so familiar with that language as to read it with ease, there will be a respectable minority who cannot read it at all. Further than this, the sandwiching of a foreign language in any book, for any purpose, is bad taste, unless a translation is given in a note — though it is more elegant to place the original in the foot note.

In this first chapter the author endeavors to show upon anatomical grounds that the cord shares but little of the risk of the brain to suffer lesions from blows directly inflicted upon its bony covering. In the many recorded cases the physical signs of injury to the spinal column are absent during life; nevertheless, the cord lesion is so usually fatal that an opportunity for *post-mortem* determination of the amount of damage is rarely long delayed. "We have further sought to inquire into the supposed analogy between concussion of the brain and concussion of the spinal cord, and have found that even if the analogy does in any case hold strictly good, it is only in the very rarest instances that it can unequivocally be maintained. And this fact is very prominent, that there is no evidence to show that the spinal cord can receive concussive injury without the manifestation of undoubted symptoms, or that the cord itself can meet with strictural traumatic lesion without the appearance of those symptoms immediately upon the injury. The evidence collected . . . is singularly important; . . . for if the spinal cord be, as we believe, . . . so free from risk of concussion injury, owing to its unrivalled security in the spinal canal, it seems highly improbable that it should be especially liable to suffer injury in any single kind of accident such as railway collisions, no matter how trivial they may be, and even though no damage has been inflicted on or near the spinal column. The improbability seems great, but far different might be the reality"; and the author therefore directs attention, in the next chapter, to the evidence which is presented "as to the liability of the cord and its coverings to suffer injury in the collisions which are frequent forms of accident in the present day, and the results of which become so often the subjects of medico-legal inquiry."

The second chapter is chiefly devoted to a consideration of Mr. Erichsen's work on "Concussion of the Spine." He first very justly condemns the phrase "Concussion of the Spine," an expression so indefinite and unscientific that it is scarcely worth the while to enter into further particulars concerning it. To summarize the author's views as expressed in this chapter, we cannot do better than to quote the closing paragraph: "A study both of concussion of the spinal cord and of 'concussion of the spine,' be they the same thing or be they something different, makes it very clear that lesion of the spinal cord from simple concussion blow is very rare indeed, and that the existence of meningo-myelitis—an easily recognized pathological condition—as a remote or early consequence of some vibratory effect upon the cord, still lacks the solid basis of established observation." He shows in a very conclusive manner that the popular idea that the effects of a railway collision upon the cord or upon the spinal column are more usually remote is entirely erroneous.

The remaining chapters of the book are devoted to the consideration of the common spinal injuries of railway collisions; shock to the nervous system; functional or neuromimetic disorders; malingering; and a chapter of concluding remarks. In this last chapter the author gives many suggestions which may prove of great value to the medical witness; and some that might be read with profit by our legal brethren.

Mr. Page has given us the second edition of a book which was recognized as an authority on the appearance of the first edition. The criticisms of that first edition were generally commendatory —and just. The second edition has been called for by the profession, in contradistinction to having been forced on the public by the publishers. We will close with a word to the publishers: Like all, or almost all books printed in England, the pages of this one are uncut. This may seem a trifling matter for a quarrel, but everyone

will admit that uncut pages are nothing more or less than a nuisance. We have sometimes thought it possible that cutting machines were unknown in England; if such be the case we hope that American publishers who have work done in that country will lose no time in exporting a few machines for their imprints.

MISCELLANEOUS.

THE ILLINOIS STATE MEDICAL SOCIETY will hold its thirty-fifth annual meeting in Springfield, beginning May 19. The following committees are expected to report:

Standing Committees.—Practical Medicine: Norman Bridge, Chicago; C. H. Norred, Lincoln; J. R. Livingood, Rossville. Surgery: W. A. Byrd, Quincy; D. A. K. Steele, Chicago; Cass Chenowith, Decatur. Obstetrics: C. W. Earle, Chicago; T. D. Washburn, Hillsboro; Anna S. Adams, Peoria. Gynæcology: David Prince, Jacksonville; Sarah H. Stevenson, Chicago; O. B. Will, Peoria. Materia Medica and Therapeutics: T. M. McIlvaine, Peoria; J. F. Todd, Chicago; Catherine Miller, Lincoln. Ophthalmology and Otology: W. T. Montgomery, Chicago; C. R. Park, Bloomington; Robert Tilley, Chicago. Necrology: E. F. Ingalls, Chicago; William Hill, Bloomington; M. F. Bassett, Quincy.

Special Committees.—Laryngology: E. F. Ingalls, Chicago. Oral Surgery: J. S. Marshall, Chicago. Pediatrics: A. F. Rooney, Quincy. Dermatology: W. J. Maynard, Chicago. Orthopedic Surgery: C. E. Webster, Chicago. Tetanus: C. Truesdale, Rock Island. Insanity: R. J. Patterson, Batavia. Alcohol as a Therapeutic Agent: M. F. Bassett, Quincy. Effects of Malaria in Puerperal Cases: H. Judd, Galesburg. Physiology: A. Wetmore, Waterloo. Treatment of Epilepsy: D. R. Brower, Chicago. The Diagnostic Peculiarities of Malignant Growths: Christian Fenger, Chicago. Simple Renal Catarrh: I. N. Danforth, Chicago. Legislation for the Insane: B. M. Griffith, Springfield, chairman; Walter Hay, Chicago; J. L. White, Bloomington; F. B. Haller, Vandalia; W. A. Haskell, Alton; E. P. Cook, Mendota; Wm. Hill, Bloomington; A. B. Strong, Chicago. Biographical Committee: J. H. Hollister, chairman, Chicago; E. P. Cook, Mendota; E. Ingals, Chicago; J. F. Curtis, Otterville; D. E. Foote, Belvidere; George W. Jones, Danville; F. B. Haller, Vandalia; T. F. Worrell, Bloomington; Washington West, Belleville; Robt. Boal, Peoria. On the Influence of Appreciable Meteorological and Topographical Conditions on the Prevalence of Acute Diseases: N. S. Davis, chairman, Chicago; J. H. Hollister, Chicago; J. F. Todd, Chicago; E. P. Cook, Mendota; G. W. Jones, Danville.

The meetings of the society will be held in the Capitol Building, beginning on Tuesday, May 19, at 10 A.M. Railroads will return delegates and members of the society, who have paid full fare in coming to the meeting, for one-third fare, on presentation of a certificate, properly signed, which can be obtained at the time of registration.

THE NEW YORK STATE MEDICAL ASSOCIATION; FIFTH DISTRICT BRANCH.—The second special meeting of the Fifth District Branch will be held at the Morgan House, Poughkeepsie, at 2:30 P.M., on Tuesday, May 19, 1885. The following papers will be read: Three Cases of Ligation of the External Carotid (in two both vessels were tied simultaneously), by J. D. Bryant, M.D.; Diphtheria and its Treatment by Calomel, by S. J. Murray, M.D.; Hypertrophy of the Prostate Gland, by J. G. Porteous, M.D.; Treatment of Cerebral Hæmorrhage and Embolism by the Internal Use of Carbonate of Ammonia, by R. C. Van Wyck, M.D.; Report of a Case of Rheumatic Metastasis to the Brain, Ending Fatally, by C. S. Wood, M.D.

THE PENNSYLVANIA STATE MEDICAL SOCIETY will hold its thirty-sixth annual meeting in Scranton, on May 27, 28, and 29. The address in surgery will be delivered by Dr. E. A. Wood, of Pittsburgh; in obstetrics, by Dr. C. A. Rahter, of Harrisburg; in Hygiene, by Dr. J. G. Richardson, of Philadelphia; in psychiatry, by Dr. S. S. Schultz, of Danville; in medicine, by Dr. E. T. Bruen, of Philadelphia, and in otology, by Dr. Chas. S. Turnbull, of Philadelphia.

PRELIMINARY EXAMINATIONS IN THE COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.—Previous to admission to its classes at the opening of the session of 1885–6 the College of Physicians and Surgeons of Quebec will require a preliminary examination in Latin, French, English, belles lettres, history, geography, arithmetic, algebra, and geometry, with three electives: Greek, physics, and philosophy.

THE INTERNATIONAL SANITARY CONFERENCE.—The President has appointed Dr. George M. Sternberg, U.S.A., to attend the meeting of the International Sanitary Conference in Rome, on May 15, as delegate from the United States.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 25, 1885, TO MAY 1, 1885.

Maj. Chas. C. Byrne, Surgeon, assigned to duty as attending surgeon at the Soldiers' Home, D. C., to take effect May 15, 1885.

Capt. Calvin De Witt, Assistant Surgeon, upon being relieved by Surgeon Byrne, ordered to report to the Surgeon General of the Army. (S. O. 94, A. G. O., April 25, 1885.)

Capt. Geo. H. Torney, Assistant Surgeon U. S. Army, assigned to duty at Fort Monroe, Va. (S. O. 87, Department East, April 25, 1885.)

Capt. L. W. Crampton, Assistant Surgeon, assigned to duty as Post Surgeon, Fort Bridger, Wyo. Ter.

1st Lieut, Wm. C. Bourden, Assistant Surgeon, ordered for duty at Fort Douglas, Utah Ter. (S. O. 33, Department Platte, April 22, 1885.